

THE CULTIVATOR:

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THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

AGENCY FOR THE CULTIVATOR IN NEW-YORK.—Our agents, Messrs. DAYTON & NEWMAN, booksellers, have removed from the corner of Fulton and Nassau sts., to 199 Broadway, where complete sets of the Cultivator can at all times be had, and where subscriptions are received for the current volume.

STATE AGRICULTURAL FAIR AT ALBANY.

As the premiums to be awarded on stock at the Cattle Show of the New-York State Agricultural Society, are confined to animals owned in this state, it has been thought best, as an inducement to gentlemen from other states to send stock to the Fair, to encourage the opening of sweepstakes, free to all who choose to enter. At the suggestion of the Executive Committee, and on the authority of different breeders, we announce the following sweepstakes, to be decided at the State Fair—entrance \$5.00, unless a different rate shall be agreed on, in special cases, by the subscribers, at the time of the exhibition. The judges to be selected by the subscribers:

For the best Bull Calf—best yearling Bull—best two years old Bull—best Bull over three years old.

For the best Heifer Calf—best yearling Heifer—best two years old Heifer—best three years old Heifer—best Cow.

For the best long-wooled Ram—best long-wooled Ewe. For the best South Down Ram—best South Down Ewe.

A gentleman of Connecticut proposes the following:—For the best two years old Bull, \$25 entrance.

A gentleman from Vermont, proposes the following:—For the best Merino Ram—entrance \$20.

PLOWING MATCH.—The following proposition comes from a farmer of this county. We should be glad to see some of the good plowman of Berkshire enter the lists with him:

MESSRS. EDITORS.—Being fond of good plowing, I propose a sweepstakes of five dollars each, to be plowed for at the State Fair, upon the following terms:

1. The judges are to be selected by the Ex. Committee of the State Society.

2. The quantity of ground to be laid out and plowed in at least two lands, as well as the time within which the work must be done, to be named by the judges.

3. The furrow slices are to lap on each other, to be 5½ inches thick, and the part uncovered to be also 5½ inches broad.

4. The lands to be as nearly flat as possible, from water furrow to water furrow, when finished.

5. No driver allowed the plowman. Nor is the plowman allowed to leave his team during the trial.

6. The plowman not allowed to touch the flag with his hands. He may tramp it with his feet however, provided he does not let go the handles of his plow at the same time.

NORMAN'S KILL.

Any persons wishing to have their names entered as subscribers to any one of the stakes, or to open a new one of any kind, will please to give notice to L. TUCKER, Albany, previous to 15th September.

SHIPMENT OF FINE STOCK.

FOR THE WEST.—MR. SANFORD HOWARD, of Zanesville, Ohio, recently left this city with a well loaded boat of stock for the west. It consisted of a bull and several other animals, chiefly a cross of the Durham and Hereford breeds, bred by Mr. J. W. HAINES, of Hallowell, Maine—a full blooded Durham heifer calf, also bred by Mr. Haines, whose stock, we are told has proved itself highly useful for the dairy and the yoke—the well known Durham bull "Leopard," purchased of E. P. PRENTICE, Esq. of this city, the sire of so many of the beautiful herd of short horns at Mount Hope, which prove him to be one of the best stock-getters in the country—a Durham cow, and two pure blooded Hereford calves, male and female, selected from the extensive herd of Messrs. CORNING and SOTHAM, of this city. The bull-calf was by a son of "Matchless," out of one of their best cows; and, to complete the assortment, several sheep of the Leicester, South Down and Merino breeds—Berkshire and improved Bedford pigs—Westphalia or Bremen geese from Col. Jacques of Charlestown—Brazilian turkeys, Rotterdam hens, and a fine large breed of white hens which Mr. H. considers superior to the Dorkings.

This stock, we are informed by Mr. Howard, is owned by several individuals, who have associated themselves together in the purchase, among whom it is to be divided on its arrival at Zanesville, and some of it will be taken to Illinois in the autumn, one of the purchasers being a resident of that state. The pair of Herefords included in the lot, we doubt not will attract much attention, and at a proper age will enable the breeders at the west to test their qualities with the Durhams and other breeds, as adapted to the wants of that country. We hope the owners may be adequately rewarded, as we are sure they ought to be, for such an effort, at a time like this, to promote the improvement of the domestic animals of the west.

FOR THE EAST.—MR. HAINES, the gentleman above spoken of, who accompanied Mr. Howard on his return from Maine, to this city, purchased while here two very superior bull calves, a Durham of Mr. PRENTICE, and a Hereford of Messrs. CORNING and SOTHAM. The Durham came from Mr. Prentice's splendid cow, "Apollonia," whose portrait was published in the 7th volume of the Cultivator, by "Leopard." The Hereford was from Corning and Sotham's highest bred stock, and both were animals of which Mr. Haines may well be proud.

BRITISH AGRICULTURAL JOURNALS.

SUCH is the ease and certainty of intercourse between Great Britain and this country, that the foreign journals are received almost as quickly, and with as much regularity, as our own. We find on our table, brought by the late arrivals, the Q. J. of Agriculture; Journal of the Royal Ag. Society; London Farmer's Magazine; New Farmer's Journal; Gardener's Magazine and Chronicle; and the Mark Lane Express, &c. The new corn law system appears to meet with little favor from the agricultural interest in Great Britain. The following extract from the Farmer's Magazine, will show the bitter nature of the feelings with which it is regarded:

"We cannot give employment, at the same time, to foreign and to home agriculture. It seems to be the determination of the British legislature, however, to give the preference in this respect to foreign serfs, boors, and American field laborers."

Although the Americans were not entirely satisfied with our amended corn law, still they promised themselves a favorable market thereafter, for the surplus of their wheat crops; and they also calculated on the speedy establishment of a new description of commerce, as likely to arise out of our new tariff of duties, from the shipment of cured provisions for the consumption of the inhabitants of the United Kingdom. In New-York, and indeed in all the large cities and towns in the American Union, beef was plentiful at 3d. per pound for the best quality, which is inferior to none, save perhaps the best descriptions in Leadenhall market. The means for increasing the growth of cattle in the United States, are absolutely boundless, and in a few years it may possibly not be necessary for our farmers to pay rent for marshes, or to grow winter food for cattle, for preserving meat in a sound state is an easy and cheap operation; and no doubt it will be attended to, and acted on, in due time, by our transatlantic brethren."

SHIPMENT OF BONES.—The ship Savannah recently cleared from Philadelphia, with a cargo of 400 tons of bones, which were purchased at \$12 to \$13 per ton.

CENTURY PLANT—Agave Americana.

THERE is one of these splendid flowering plants in the green-house of Gen. STEPHEN VAN RENSSELAER, of this city, which is about to flower for the first time since it has been in the possession of the family, which is more than half a century. Some two years since, it was placed in a house by itself, the temperature of which has been kept at 80°, that it might have a better opportunity to develop its character. The flower-stalk is now 17 feet high, and is increasing about eight inches per day. It will begin to put forth flowers about the first week in August, and will probably continue in bloom for two months or more. We learn with pleasure, that Gen. Van Rensselaer, at the request of the Managers of the Orphan Asylum, has consented to its public exhibition for the benefit of that institution, only reserving a free admission to his visitors, and to the tenants of the Manor of Rensselaerwyck. Arrangements have been made, at a considerable expense, to accommodate the public, who will now have an opportunity to gratify their curiosity in viewing this rare and splendid flower, and of aiding at the same time one of the best institutions in our city.

AGRICULTURAL FAIRS.

WE wish to give in our next number, as perfect a list of Agricultural Fairs, to be held the ensuing autumn, as possible; and shall be greatly obliged to such of our friends in the different states, as will apprise us, where it can be done free of postage, of the times and places in which Agricultural Fairs are to be held in their respective states. We should be glad, also, to publish a complete list of all the Agricultural Societies in the United States, together with the names and post-office address of their Presidents and Secretaries; and we beg leave to suggest to editors of Ag. Journals, the propriety of publishing such lists for their respective states, from which a complete register for the Union might be formed.

AMERICAN INSTITUTE.—The 15th annual Fair of this Institution, is to be held at Niblo's Garden in New-York, commencing on the 10th of October next; and the managers invite all interested in agriculture, manufactures, and the arts, to lend their aid by contributions of their best specimens, "that this intended epitome exhibition of a nation's resources may be honorable to the Institute, and truly illustrate the progress of improvements, and the present condition of the arts in our country."

"SPIRIT OF THE TIMES."—A recent number of this "Chronicle of the Turf, Field Sports, Literature, and the Stage," was embellished with a superb portrait, on steel, of the celebrated horse "Grey Eagle," owned by A. L. Shotwell & Co., of Georgetown, Ky. It is one of the most splendid of the beautiful prints with which "The Spirit" is so frequently embellished.

COTSWOLD SHEEP.—We see it stated in a Detroit paper, that Mr. Geo. Hentig, of Marengo, Mich., sheared this season, 12 Cotswold sheep, (of the importation of Messrs. Corning & Sotham, of this city,) whose fleeces averaged over 11 lbs. They were two years old. The largest fleece weighed 14 lbs. 3 oz.

CLOVER IN S. CAROLINA.—A correspondent of the S. C. Temp. Advocate, who has been very successful in the cultivation of the various grasses suited to the climate of that state, gives the following directions for cultivating clover:—"A stiff clay soil is the best for this grass. After preparing the soil well, sow in September, two gallons of clover seed to the acre, mixed with the usual quantity of rye or oats, that is suited to the strength of the soil. The rye or oats serves to shade the clover, the first year from the scorching rays of the sun, and enables it to become well rooted by the time the small grain is removed. The second year it will be fit for pasturage or harvesting."

KILLING WORMS.—Hellebore, it is well known, is an active poison, and fatal to most animals, and in the form of the powder of the shops, or in a strong decoction, has proved a most efficacious agent in freeing gooseberry and currant bushes from the myriads of worms that at times infest them. If used dry, the powder is dusted over them from a flour box; if in decoction, from the nose of a fine rose watering pot. A writer in the Gardener's Chronicle, says that he mixed the powder with soap suds, watered his bushes, and in six hours the bushes were free from worms, they having fallen dead by thousands. Might it not be used to destroy other worms as well as these.

Notices of New Publications.

A Letter to the Right Hon. Baron Ashburton, on the Importance of the Corn and Flour trade with England, via the River St. Lawrence: and on the Advantages to be derived from introducing Maize into Great Britain, as a cheap article of Food for the Poor and Laboring Classes. New-York: 1842.

SUCH is the title of an anonymous pamphlet laid on our table, evidently written by an Englishman, but one very well acquainted with our country, its productions, and the natural course of trade between G. Britain and the U. States. The pamphlet contains many interesting statements and statistical tables, which, if not absolutely new, are valuable from the facts they contain. The letter is in two parts; the first is devoted to the impressing upon the mind of Lord Ashburton, the importance of the trade in wheat and flour, which within a few years has sprung up along our northern frontier, by which wheat and flour from the States is taken to Canada, and from thence is shipped to England as Colonial produce. By this course, American grown wheat finds its way to G. Britain with the payment of a mere nominal duty; and the rapid improvements making by the Home and Provincial governments, in the communication between the upper lakes and the lower St. Lawrence, are calculated greatly to facilitate and extend this trade. To the farmer of Western New-York, Ohio, Illinois, or Michigan, it can make little difference whether his wheat goes to Montreal or New-York; the price is what he looks at; but to the finances of this state, it does make all the difference in the world, whether the western wheat finds an outlet through the Erie canal or the St. Lawrence. The discussion of this topic, however, more properly belongs to the statesman than the farmer, and we shall not pursue it, although it cannot with safety to our interests be overlooked by any.

From a careful survey of the trade from the various points on the northern frontier, the writer estimates the export of wheat, the staple product of the North, through this channel, at six millions of dollars, and thinks that ere long it will perhaps treble that amount.

The writer sums up his remarks on the first subject of his letter, in the following manner:—

"That America should supply England with food is natural enough, because one abounds in fertile soil, and the other with population; but we give the preference to the supply passing through Canada, for the following reasons:—1st. Because the St. Lawrence is the natural outlet for all bulky articles from that part of the North American Continent. 2d. Because from the rates of duty on the frontier and in England, wheat enters the ports of G. Britain by this route, under very superior advantages. 3d. Because, when the Welland canal becomes enlarged, and the impediments in the St. Lawrence removed, the navigation from the upper lakes to Montreal and Quebec—the ports of shipment—will be so easy, that flour and grain may be transmitted thither, and shipped at a lower rate than at any other port on this continent; and 4th. Because by this operation, G. Britain can give admission to the American products on terms more favorable and exclusive, than if her ports were opened generally to all nations. And it is advantageous to offer this favor to America, because America will take British goods in exchange."

But we are inclined to attach the most importance to the second part of our writer's essay; or that part which treats of the introduction of Indian corn into England, as an article of food. The quantity of corn we could furnish is illimitable, were there a demand to call out its cultivation; and when kiln dried, there is no obstacle to sending it on ship board to any part of the world. There could in all probability be no measure adopted for the ultimate relief and prosperity of the states north of the Ohio, equal to the opening of a market for their immense corn product. There are only two obstacles in the way; the difficulties of transportation, and the British corn laws. The first are in a fair way to be removed; the latter are more doubtful; but if the pressing wants of starving millions produce their natural result, such modifications may take place, as to justify the anticipations of our author.

We have room for only a few of the author's deductions and conclusions, although every person acquainted with corn meal, will agree with him in his statements of its value as an article of food. A few of his conclusions are as follows:—

"1. That the laboring classes and the poor of Great Britain, require a cheaper article of food than wheaten bread. 2. That although wheat contains a larger portion of gluten, or the nutritive ingredient, *bulk* is necessary, not only to satisfy the cravings of hunger, but to promote digestion by the "stimulus of distention," which bulk alone can give.

3. That the craving of hunger being removed or alleviated by the quantity of food taken, the mind is more at ease, the mental irritability consequent upon hunger is assuaged, and man goes to his labor with cheerfulness and vivacity, becoming a more peaceful citizen and perhaps a better man.

4. That maize possesses a great superiority over rye, barley, oat meal, or potatoes—not that it contains a greater portion of gluten, but that its constituent parts are better proportioned, and consequently make a better article of food.

5. That admitted into England duty free, it would be a cheaper article of food than any of those above named,

besides being vastly superior to them in nutritive and healthful properties."

It will be at once seen that the questions discussed, and the positions advanced in this letter, are such as will interest every one, and particularly the farmers of the west. On the action of this Canada trade is direct; on the farmers of the east indirect; but its influence will be every where felt. That a very large portion of the wheat of the states bordering on the lakes, has this season been purchased for the Canada market, is well known; and it is certain that a still larger part of the coming crop will follow in the same channel. To us, it appears evident, that a train of causes are at work which will tend materially to modify the course of trade and exchange on our whole northern frontier. It is the province of the statesman to see that the interests of the farmer suffer no detriment.

The Book of the Farm. By HENRY STEPHENS, Editor of the Quarterly Journal of Agriculture.

THIS is a work publishing at Edinburgh, in numbers of about 100 pages each, price 4 shillings sterling a number, and of these the first four numbers are now before us. The high reputation of Mr. Stephens; the extensive, and varied information he has exhibited in conducting the Q. J. of Agriculture; and his intimate acquaintance with all that relates to the farm, and the improved methods of husbandry, had led us to form raised expectations of his forthcoming work, and thus far it appears we shall not be disappointed. "The Book of the Farm" is intended to be a guide to those who wish to learn husbandry with the purpose of becoming practical farmers."

The work is divided into three portions. The first shows the pupil the obstacles he has to encounter, and the best way of surmounting them; the second details the various modes of farming practiced in Great Britain, with suggestions for improvement; and the third introduces the young farmer into the world, points out the qualifications of a good farm, and the capital necessary to furnish and manage it. In the second part, the course of the seasons is followed in describing the successive processes of farming, and every information relating to these processes will be given in the amplest manner. Numerous engravings, and wood cuts of animals, implements, and practices of husbandry, will be given in the course of the work, drawn from the most authentic sources, and illustrating the topics discussed in the text. The whole will be comprised in twelve numbers.

The first number gives an interesting account of the several Agricultural Schools that have been established in the different countries of Europe; the Templemore Seminary in Ireland; the establishment of M. Fellenberg of Hofwyl, in Switzerland; the German institution at Möglin under the direction of Von Thaer; the French model farm at Grignon under the management of M. Bella; and the lectures and classes of Agriculture in the Edinburgh College. He also gives a synopsis of a farm school, such as he thinks would possess every desired advantage, and furnish every requisite instruction to the pupil. A liberal extract from this part of Mr. Stephens' "Book," will be found in another part of the present number of the Cultivator.

The "Book of the Farm" is one, which, so far as we are able to judge from these numbers, will be useful to farmers generally, as embodying a vast mass of practical instruction.

The Farmer's Land Measurer, or Pocket Companion, showing at one view, the content of any piece of Land, from dimensions taken in yards with a set of Useful Agricultural Tables. By JAMES PEDDER, editor of the Farmer's Cabinet.

THIS work has recently been published by Thomas, Cowperthwaite & Co., Philadelphia, and consists, first, of a set of tables so constructed as to enable any farmer to ascertain the dimensions of his lots, large or small, in an easy and practicable manner. All that is necessary, is to ascertain the length and breadth in yards, when a reference to the tables will at one view show the amount in acres, rods and perches. The measure being in yards, most farmers may readily ascertain the size of their fields, with sufficient accuracy for ordinary purposes, by plying their length and breadth, without recourse to the rod and chain. In addition to these land measuring tables, which occupy about 120 pages, the work contains tables for manuring lands, of planting distances, for plowing, measurement of live cattle, &c., &c., making it altogether a truly useful *Pocket Companion*, which should be in the possession of all farmers who wish to learn with a good degree of exactness, the result of their operations.

Sullivan's Journal, No. 87—July, 1842.

THIS number of the American Journal of Science and the Arts, contains a greater variety of papers than usual, and the most of them are well calculated to interest the general reader, as well as the man of science. The notice of the coal mines in Virginia; the Human Foot Prints at St. Louis in solid limestone; a capital description of the Wisconsin and Missouri mineral region; the Third Annual meeting of the Association of American Geologists and Naturalists; the Notice of Dr. Dana's Muck Manual, and the Properties of Wood Ashes examined, are all papers which cannot fail to instruct and interest.

The paper of Dr. Plummer on the dangerous properties of wood ashes, should receive an attentive perusal by every housekeeper, and we doubt not, would prevent many of those disastrous fires which prevail so frequently both in city and country. Perhaps one third of our farmers, as well as others, preserve their ashes in wooden boxes, or barrels; and if each new addition of ashes

is kept from actual contact with the vessel, no danger is apprehended. The numerous and varied experiments of Dr. Plummer, prove that such an opinion is fallacious in the extreme; and that by the application of hot ashes and coals to the surface of a quantity of coal ashes, the whole may be ignited, and the destruction of the vessel holding the ashes, or perhaps the building itself, ensue. It cannot be too forcibly impressed on the minds of all, that ashes should never be deposited in wood.

The notice of Dr. Dana's Muck Manual is of the most favorable character, and reiterates the opinion expressed by us in the June number of the Cultivator, that as a work of real value to the agriculturist, "the Manual would not suffer by a comparison with any other." Less elaborate and learned in appearance, less dogmatical in its theories, but infinitely more common sense and practical in its instructions than some foreign contemporary publications, we cannot doubt that the Muck Manual in its successive editions will greatly advance the cause of agriculture among us.

American Eclectic, No. X—July, 1842.

If any additional evidence were wanting of the deep hold which the cause of Agriculture has taken on the public mind, it would be found in the readiness with which Journals purely literary and scientific, admit and invite to their pages, articles on the theory or practice of Agriculture, Horticulture, and their kindred arts. The Eclectic, a valuable bi-monthly of New-York, devoted to a dissemination of the most valuable papers to be found in the literature of the world, gives in the July number an able review of Liebig's Organic Chemistry from the London Quarterly Review. Speaking of the importance of potash to the production of some classes of crops, the writer of the article relates the following anecdote, for the truth of which he says he can vouch, having heard it attested by the parties themselves.

"A distinguished professor of chemistry in Germany, in discussing with Prof. Liebig the question of the use of alkalies, and in particular the necessity of potash for the growth of wheat, mentioned as unfavorable to that view, the fact that fine crops of wheat were obtained from a purely calcareous soil, lying over limestone, in Hanover. "Then," answered Prof. Liebig, "you may rely upon it, that the limestone contains potash." His friend took an early opportunity to investigate the matter, and found, to his surprise, that the limestone in question did contain a very notable proportion of potash, a fact previously unknown. He found potash also in other fertile limestones, and in every specimen of clay he examined, even in the purest pipe-clay. We doubt not, therefore, that potash will be found in some form, in every soil in which wheat thrives."

We make this extract, because we do not recollect to have ever before heard potash mentioned as a constituent part of limestones; and because if such is the fact, it would seem to throw some light on the cause of some kinds of limestone being so much more valuable as fertilizers than others, a result which the experience of many farmers in England, and we believe in this country, would affirm. The writer in the Quarterly, attributes many of the obscurities complained of in Liebig, to the defects of translation, occasioned by the haste necessary to have the volume laid before the British Association at its meeting of last year; defects, which the new edition now in press, and carefully revised by the author will doubtless remedy.

Address on the formation of the Agricultural Society of Essex. By JAMES M. GARNETT.

An Address before the Ag. and Hort. Society of Henrico, at their Anniversary meeting, May 25, 1842. By JAMES M. GARNETT.

WE have read these Addresses, for copies of which we are indebted to the respected author, with great pleasure; and, did not the crowded state of our columns forbid it, should be gratified to lay copious extracts from both, before our readers. There is a directness of purpose, a clearly defined effort to promote the great cause of Agriculture, in all that proceeds from the pen of Mr. Garnett, which renders his writings acceptable and useful to the public. He not only aims to make our farmers good reapers and mowers,—good tillers,—good managers of stock and industrious collectors of manure, but also to impress upon them the fact, that high intellectual and moral culture is equally essential to form the complete and accomplished agriculturist. "Nay, more," says Mr. G. in one of the addresses before us, "I deem it my duty to assert our just claims to the highest rank in public estimation—on the score of general utility;—to point out the chief means necessary to the attainment of this rank;—and to impress on every member of our numerous fraternity, this all-important truth, that the owners and cultivators of the soil are, in fact, the foundation, the main pillars, and chief support of our great social edifice. Other classes have their uses and value, as essential elements of every civilized, well constituted community. But let it never be forgotten, that all are dependent, even for their subsistence, on the agricultural class. Deeply, then, does it concern every member thereof to aspire to something more—something infinitely higher—than merely to make good crops, and to enrich his land, or he would deserve to rank, in the scale of being, but little above the horse, the mule, or the ox that he drives. Would he either reach or maintain that exalted standing among his fellow men to which he has so just a title, let him make himself worthy of it by the diligent culture and unremitting care, not only of his fields, but of all his faculties—both intellectual and physical. Let him qualify himself to the utmost of his pow-

er, not only to feed and clothe the bodies of his family from the products of his farm, but to imbue their minds with knowledge and virtue from the store-house of his understanding."

Report of the American Institute, on the subject of Agriculture, for 1841.

THIS Report has been issued as a Legislative document since the adjournment of the Legislature. It contains the doings of the Agricultural Department of the Institute for the last year, embracing the reports of the various committees, descriptions of implements, premiums awarded, statements of claimants for premiums, &c., &c., most of which have heretofore been noticed in the Cultivator.

A Dictionary of Science, Literature and Art, comprising the history, description and scientific principles of every branch of human knowledge. By Prof. W. T. BRANDE.

MESSRS. Wiley and Putnam, New-York, have commenced the publication of an American edition of this valuable encyclopedia of useful knowledge. It is to be issued in semi-monthly parts of 56 octavo pages each, at 25 cents per part, the first and second of which are now before us. It is printed with beautiful nonpareil type, in double columns, on paper of the best quality, and illustrated with a great variety of wood cuts. With Prof. BRANDE, the general editor, are associated fourteen other gentlemen, eminent in the arts and sciences, to whom the different departments are committed, such as Mr. LOUDON, who furnishes the articles on Agriculture and Gardening, Prof. LINDLEY on Botany, &c. &c. It is to be completed in 24 parts, making a volume of about 1500 pages, and "will be found to be a convenient manual or reference-book for all descriptions of persons on all subjects."

North American Review, No. 116—July, 1842.

THE present number of the Review is a capital reading one, all the papers being on interesting subjects. Of the whole we think 'The English in Afghanistan,' and 'Cleveland's Voyages,' about the best. It is not often that we find Yankee enterprise and perseverance, proverbial though they are, more strongly illustrated than in the case of Capt. Cleveland. We miss in the present issue, the usual paper on Agriculture; an omission which does not often occur.

Answers to Inquiries, &c.

CURE OF COARSE GRASSES.

"MESSRS. EDITORS—I have several acres of low wet meadow, or rather what should be such, but it produces little else than coarse swamp grasses, which make poor hay, and are of no value when I have attempted to pasture it. How can these grasses be exterminated, and the cultivated grasses be made to take their place?"

INQUIRER."

The first step in the process of reclaiming such lands, is to drain them thoroughly. This is indispensable; and until this is done, nothing else can be undertaken with any prospect of success. When this is done, if the soil is sufficiently firm, as it doubtless will be, invert the sod with the plow, roll and harrow, and re-sow with the seeds of such grasses as you wish to cultivate. Herd's grass and redtop, will do well in such cases. Or if you choose, you may take a crop of potatoes from the piece, and the next spring seed down with oats. If you can apply a dressing of ashes, (and those that are leached will be better than none,) or compost made of ashes and manure, the benefit will be apparent, both to the crop and to the soil. When the soil will not admit of plowing, after draining, a covering of gravelly earth, road scrapings, mixed with lime refuse from the kilns, or coal ashes, will give a foundation for the better grasses. These materials may be drawn upon the meadow during the winter while the ground is frozen, when the softness of the soil prevents such operations in the summer. It is said that where the coarse grasses, or rushes, grow in tufts as they sometimes do, common salt applied at the rate of a handful to a tuft, will cause them to decay and disappear. As a general rule there can be no difficulty in substituting the valuable grasses for the inferior ones, when the land on which the latter grow has been drained. Coarse grasses are the natural covering of soils abounding in stagnant waters, and a removal of the cause, will of course effect the cure.

USE OF LIME.

"MESSRS. EDITORS—Is lime made from stone really a manure for any kind of land? If it is, what kind of land? In what quantities should it be used? At what season, and in what manner? What crops does it suit best? In a dry season, will it not burn up any crop on any kind of land?"

J. W. McCALL."

Laurens District, S. C.

The influence of lime on soils, or in the production of crops, is owing to several causes. 1st. It acts in modifying the mechanical texture of soils, rendering them where it exists more friable, and better suited to the purposes of cultivation. 2d. It forms in many plants a part of the vegetable structure, and is properly inorganic food, having been received and assimilated by the organs of the plant; as such it may deserve the name of manure. 3d. It acts an important part in correcting the acidity of soils, as may be seen by applying it to fields where sorrel or other acid plants flourish to the exclusion of the

more valuable ones. 4th. Lime exhibits its functions most powerfully and beneficially by the conversion of the vegetable geates or humates into vegetable food, or rendering them fit for the nourishment of plants. We think also, that like other alkalis, it contributes to the electro-magnetic action to which the circulation of plants is doubtless owing, and may therefore be regarded in the light of a stimulus to vegetable life.

It will be of no use to apply lime to land in which decomposed animal and vegetable matter is wanting, or the salts they have formed. There must be the elements of fertility, or lime will be unavailing. On exhausted lands the effect is slower, than on soils where the materials to act upon exist in abundance. Lime may be used in quantities of from fifty to one hundred bushels per acre with benefit, and instances are on record where several hundred bushels have been applied without any injury.

It is a common practice where lime is used, to spread it over the fields the year previous to their being plowed for crops. Another practice is to draw it upon the ground where it is wanted, after the following has been mostly completed; deposit it in small piles at equal distances, so as to ensure an equal distribution; cover these piles with earth, which will cause the lime to slake equally, and then after thoroughly mixing the mass, scattering it over the field. It is then to be plowed in, and the seeds sown. Lime is useful in preparing soils for any crop, but is considered most suitable for wheat, and is most generally used as a preparative for that crop. We have never known a crop burned in any season, by the use of lime, nor can there be any apprehension of such a result, unless applied in extravagant quantities. Limestone containing large quantities of magnesia, from its remaining caustic much longer than pure limestone, would be more apt to produce such an effect; but the immense quantities of this kind of lime used in the best agricultural districts of Pennsylvania and Delaware, prove that danger from this source is mostly ideal.

NEW WEED.

"MESSRS. EDITORS—I send you a few roots of a new pest to the farmer. The first I noticed it was in 1840, and its spread has since been unparalleled. The root you will see is a small bulb or nut, and those sent I have this day taken from the furrow. Last year one of my pieces of corn, planted on the 10th of May, was almost destroyed by this weed. I plowed and hoed it four or five times, and within a week or fortnight after going over it, it would look as though neither plow nor hoe had touched it. I should be much gratified to receive some information respecting the history and destruction of this root which threatens to become a formidable enemy to the farmer."

J. V. B. JOHNSON."

Piermont, N. Y. 1842.

We are unacquainted with any weed or plant having roots like those sent by Mr. J., and the condition of the leaves or shoots rendered it impossible to trace it. If any of our botanical friends are able to recognize it from Mr. J.'s description, and will furnish us with the name and habits of the plant, they will no doubt confer a favor on the public. Judging from their present dried appearance, the roots when fresh would be nearly the size of a robin's egg.

CULTURE OF SAFFRON.

"MESSRS. GAYLORD & TUCKER—As I am now engaged in the culture of saffron, and being a subscriber to your paper, I have to ask one favor of you. If in your power, will you publish the best method of cultivating saffron, curing it, &c. Yours truly, H. CLARK."

Petersburg, May, 1842.

We are glad to learn that the cultivation of this valuable dyeing material has been entered upon in our country. It is a native of Asia, and is used by the Chinese for giving the beautiful rose, pink, scarlet, purple, and violet colors to their silks. In Germany, where it is an article of culture, the seeds are drilled in good ground, in rows 18 or 24 inches apart, and four inches between the plants. The ground must be kept clean and light by the hoe or otherwise. The gathering forms the most considerable item of labor, it being calculated that for one month while the plant is in blossom, every acre will keep four or five girls constantly employed in gathering the flowers. In drying them, the blossoms must be kept free from all moisture, and be kept in positions where the air can circulate freely. They must be thoroughly dried, or they are apt to mold when packed. From some experiments we have made, there can be little doubt that the culture of saffron will yield a handsome reward.

"DO CANADA THISTLES GO TO SEED?"

This is the heading of a communication received by us, from L. W. BEEBE, of Lima, Livingston county, and of this question he seems inclined to take the negative side. This opinion he founds on an experiment made by him, of planting some heads of the ripened thistles; as well as some observations made on the manner in which this pest of the farmer spreads. He admits at the same time, that there "is something mysterious about it in his own mind," and requests the opinion of some of our correspondents on the subject.

We will remember the time when respectable farmers contended that the Canada thistle formed no seeds, but we had supposed such opinions had passed away, and that no one now doubted either the formation or germination of thistle seed. That this is the case, the evidence

is just as decisive, as that corn or wheat mature their seeds, and that such seeds germinate. We have seen this experiment of germinating Canada thistle seed tried so frequently that not a doubt—indeed we never had any—remains, that this troublesome weed is propagated as many other plants are, both by the roots and by the seed. We can attribute the hesitancy which some feel on this point only to the fact, that a large portion of the seeds are usually blighted or immature, and that in some years, whole patches of this thistle will produce very few, if any, seed bearing heads. There are some farmers who maintain that chess never germinates, and consequently take no pains to free their seed wheat from its presence; it would be a still more fatal error, should farmers generally allow their thistles to remain uncut, under the impression that they produce no seed, or that such seeds will not grow.

SORREL—MANURES.

The following are extracts from a letter written by G. BILLINGS, Esq., of Carlisle, Mass. to the editors of the Cultivator:

"I have noticed that much of the grass lands, or as we call it, mowing fields, are greatly overrun with sorrel. Much of this land is of a good soil, capable of producing from 1½ to 2 tons of hay to the acre, although much of it at present falls short of this. Why is it that land produces sorrel, the poor as well as the rich? and what is the best method to rid the soil of it? Will sorrel be as good as clover, or other green crops plowed under? Our soil in these parts is mostly light and sandy; with peat or bog meadows in abundance."

"As the use of manure is claiming attention in all parts of our country, not more, however, than it deserves, it becomes all of us to make ourselves acquainted with the best method of preparing and applying it to the soil. Many of the farmers in this section of the country plow it over in April or first of May, and let it ferment till they want it to plant corn or potatoes, and then put a shovel full or more in each hill. This method is getting out of use, as it is thought it causes the worms to injure the plants, and makes them more liable to be effected by the dry weather. Some, after it is plowed over and fermented, apply it to the surface, and harrow it in as they call it. Others again take it from the heap, just as it is thrown from the barn, put it on the land and plow it under, either on grass land, or such as has been tilled one season. Which of these three ways is best, say when the soil is a sandy loam? The first is attended with the most labor; the second many object to as they say the sun dries the manure up too much; and in the third it is said you bury it too deep, and so lose the good of it. I have read Mr. Garnett's mode of applying his manure; this is attended with the least expense, and by his account, it is the best way; if so, we ought to adopt it, as a great expense in time and money might annually be saved for other purposes. The time is fast coming, and even now is, in many parts of our country, when our heaps of manure must be our chief dependence for our crops. To the farmer, then, it is all-important that he should know the best and cheapest mode of applying it to the soil."

The acid of sorrel is the oxalic, and sorrel will only grow in soils where this acid is in abundance. To destroy sorrel it is only necessary to neutralize the acid that produces it, and this may be done by any alkali, but the most common and the cheapest is lime. Sorrel plowed under will not fertilize soils like clover, for the evident reason that it contains in itself a principle fatal to the more valuable grasses and grains, and mere plowing does not neutralize or destroy it.

In using manures we should prefer the third mode, that is, spreading it fresh from the yards and plowing it under at once. Not too deep, however, as the roots of plants would not reach it while young, the time when they need the influence of manure to give them a vigorous start. In heaping manures, there is much danger the fermentation will be too rapid, and ammoniaical gases escape, which would greatly lessen its value. It has been found in England that the best method of employing stable manure for the turnep crop is in the rotted state, when the process has been performed in such a way that the manure retains all its fertilizing qualities. Had we "peat and bog meadows in abundance," we should use our barn-yard manure in the manner recommended by Dr. Dana, and practiced by many of the most skillful farmers of Massachusetts; that is, we should use it for converting those substances into compost, instead of applying it directly and alone to the land. The farmer in the use of manures should keep a few plain things in view; and he cannot widely err. The manure in preparation should be allowed to lose none of its most essential qualities; this may be done by rapid fermentation in masses, or it may be exposed, so as to have all its soluble parts washed away and lost. In its application it should be placed where the roots of the plant can readily reach it, and that at the time when most wanted. Shallow covering we prefer to deep covering in the management of manure, although deep plowing in the preparation of the soil is indispensable.

BERMUDA GRASS.

"A SUBSCRIBER" in Wilkes county, Georgia, says, "We wish to be taught some mode of cultivation by which we can extirpate from a field or farm, root and branch, the Bermuda grass. You are aware that although not propagated from seed, each root and sprig is so tenacious of life, that we have, so far, been baffled in every

attempt to rid ourselves of it. If you, or any of your correspondents can suggest any kind of grass that will root it out, and can itself be got off either by the plow or by grazing, or any other mode by which it can be destroyed, the matter will receive the attention, and be acted on, by at least a portion of those whose farms are infested with this grass."

We have found repeated plowings more effectual in getting out "root and branch," any weed or grass we wished to destroy, than any other course pursued by us; but as we have never tested the vitality of the Bermuda grass, we shall be happy to receive from some of our friends, who are acquainted with that plant, the information desired by "A Subscriber."

COMPOST.

MESSES. GAYLORD & TUCKER.—In your last number I observed Dr. Dana's remarks on muck for manure, mixed with ashes in the proportion of one load of ashes to three of muck, or peat. What I wish to know is, whether shell lime will not do as well as ashes. I have already burned some six or eight hundred bushels of such lime, mostly slacked fine, and if I can use them in this way, I should like to know the proper proportion and the best method of mixing them.

Troy, June, 1842.

E. LOCKWOOD.

Lime may be used in preparing such composts, but the quantity used must be small, compared with the ashes directed by Dr. D., and for reasons assigned by him. "The properties of lime and geine, are here to be remembered. *Lime in excess, renders geine insoluble, granting it to have been in a soluble state. Lime changes vegetable fibre into soluble geine, but being applied in excess it forms an insoluble salt.*" Lord Meadowbank failed in his attempts at preparing compost from peat with lime, by not understanding this law. The author of British Husbandry says, "Not only does peat, when compounded with a small quantity of lime, obviously undergo the putrefactive fermentation, but it is well known to many farmers, that such composts form excellent dressings, particularly for grass lands." Low in his Practical Agriculture remarks that "the best earthy materials for mixing with lime, are those which contain a certain proportion of decomposing organic matter, such as the scouring of ditches and the sediment of pools. The lime may be applied at the rate of two bushels to the cubic yard, and fifty cubic yards of this mixture to the acre, will form an efficient manuring for almost any soil."

The failure in the corn alluded to by Mr. Lockwood, in another part of his letter, was doubtless owing to the seed having been slightly heated before, or on its passage from the south. From our experience in this matter, we are confident that more failures in planted corn arise from this source than any other. Corn intended for seed should never be put in barrels or deep cribs, but traced up in the ear when gathered.

REARING CALVES.

In reply to "D. B. C.," in the Cultivator of last year, on the raising of calves, a "Dairyman Farmer," says, "In 1838 I reared five heifer calves as cheap, and I think as well as calves can be reared. They were calved in April. I allowed them to suck the cows for four or five days, taking part of the milk at the same time, so that the calf should have but 2, 3 and 4 quarts, increasing the quantity to six quarts twice a day at five days old. I then took them off, and fed them on new milk for a week; then on skim-milk for a fortnight, when I began making cheese. The calves were then fed on whey, about 8 quarts each per day, giving them hay until the grass was started and the weather mild. They were then turned out, and the whey continued until July, when they were put into a fresh pasture where there was plenty of good water. They received plenty of salt from the first. From the first of November they were stabled at night, and in stormy days, with what hay they would eat. In January finding they were lousy, I gave each one a quart of corn and cob meal, with a tea-spoonful of sulphur, which I continued until they had taken four ounces each, giving it once a day, which cleared them from the lice. After this they received the same quantity of cut potatoes daily until the first of May, when they were turned out to pasture in fine order. They all came in at two years old, and for size, beauty, or dairying purposes, cannot easily be beat. They were as large at two years old as three year olds usually are. The dairymen in this section of the country, think that heifers that come in at two, make the best cows for milk, and some of them will not keep one over that does not come in at that time.

TURNIP FLY.—One of the most serious obstacles to the culture of the turnep, is found in the turnep fly, which frequently, in spite of every effort, will destroy the young plants almost as soon as they show themselves above ground. Soaking the seed in currier's oil, is said to be a perfect remedy for the fly, and is so easy, that it should be tried by every turnep grower. For the cabbage, radish, and plants of that class generally, it would doubtless be equally useful. In England, another remedy has just been discovered, an account of which we copy from the Mark Lane Express. The writer says—"I have great pleasure in communicating to my brother farmers, that I have discovered that gas lime, sown upon turneps before their coming up, is a sure preventive against the ravages of the fly. When gas lime cannot be obtained, it may be mixed with common lime, may be successfully applied between the drills, carefully avoiding the plants."



THE POULTRY YARD.—(Fig. 71.)

We are confident the most of our farming friends would find that more attention to their poultry yards, would add essentially, not only to the comfort of themselves and their families, but also to the aggregate of their annual farm profits. Without any particular effort, or any extra buildings or yards, from 50 to 100 fowls may be kept on every farm of a hundred acres, and the contributions they will make in eggs and chickens to the products sold, will amount in the end to a very handsome sum. It is true, to be made a source of profit they must receive attention; the eggs must be gathered daily, two or three hens must not (as is frequently the case,) be allowed to set on one nest; coops must be provided for the chickens, as they are hatched, and they, as well as other domestic animals, must be fed. Fowls will sometimes, perhaps, do a little mischief; if allowed access to grain fields, they will break down and destroy more than they will eat, and if they find the planted corn, they will show a perseverance and dexterity in tracing out the rows, and extracting the plants, worthy of any featherless biped that lives by his wits and the plunder of the public. The true way to put an end to such troubles at once, is to confine the depredators, when you do not wish to kill them; and then a little extra feed is all that is necessary to save both your crops and your fowls.

Domestic poultry usually do much better that run at large, than they will if restricted to narrow limits in the coop or yard. Their health is improved, their flesh is finer and better tasted, and they will produce more eggs, at large, than in confined situations. The Turkey, in particular, is a strenuous advocate of the largest liberty. Hens in a garden are a pest, but there is no necessity of being troubled with them there. A common picket fence five feet high will effectually exclude them; it being well known that fowls rarely attempt flying over such a fence, and when made plain, such a fence costs perhaps as little as almost any other.

To have the poultry yard profitable, the fowls should not be kept until they are old. There is no objection to preserving a favorite cock so long as he is active and lively, but hens after three years will not produce as many eggs as those of one or two years. Much, however, is depending on the breed kept, but more on the

manner in which they are kept, so far as good layers are concerned.

The cut which accompanies this article, copied from a London magazine, very faithfully represents some of the most common domestic fowls. The Peacock *a*—Turkey *b*—Dorking cock and hen *c*—Guinea hen *d*—Hamburg, Poland or Top-knot *e*—Game cock and hen *f*—Bantam cock and hen *g*—are here shown in a single group. The common fowl is too familiar to all to require illustration. The Dorking breed is one of the best breeds at present in the country. They are readily distinguished by their having five toes. Mr. Bement, in his valuable article on Poultry, in the Transactions of the New-York State Ag. Society for 1841, says, "the genuine color of the Dorking is a yellowish white. The flesh is good flavored and of a yellowish or ivory shade. This is the variety generally made into capons. The eggs are large, and the flavor good. They lay well, fat well, and rear well, are handsome alive, and show delicate ivory white when dressed."

The Game cock breed, and the Bantam breed, are not generally kept, except by amateur poultry breeders, rarely by farmers, as they afford little profit as layers or rearers of chickens. The chickens of the game cock breed are so pugnacious as to be constantly fighting with one another, and in this way sad devastation is made among the broods: the Bantams are so small as to be undeserving of notice, except as objects of curiosity.

One of the most beautiful of our fowls is the Hamburg, or Poland Top-knot, and it is also one of the best, with which we are acquainted. Both Mowbray and Boswell in their works on Poultry, speak highly of this breed; the first saying, "they are one of the most useful varieties, particularly on account of the abundance of eggs they lay, being least inclined to sit of any other breed, whence they are sometimes called *everlasting layers*, and it is usual to set their eggs under other hens;" and the last remarking, "this is a kind we esteem above all others, both for their appearance and usefulness, and we regret they are so seldom to be met with pure in this country." Mr. Bement, in the paper alluded to, says, "They are hardy, enduring well the extremes of heat and cold, although they are not so thickly covered with feathers and

down, as some other breeds. Their color is of a shining black, or a deep glossy changeable purple, with a large white top-knot of feathers, covering so much of their head as almost to blind their eyes, and often require clipping. The contrast of this perfectly white crown, with the black plumage is truly beautiful, but that of the cock differs from the hen; hers being broad and erect feathers, while his are narrow and hanging down in every direction." We have seen a few instances, in which a small tuft of brilliant red feathers existed in the center of the white knot, almost realizing the appearance of a splendid flower.

PEAT AS A MANURE.

We are inclined to the opinion that one of the greatest discoveries of the age in favor of agriculture, so far as manures are concerned, is the facility with which that hitherto inert or valueless substance, peat, can be converted into an efficient manure. Swamp muck may very properly be classed with peat in this respect, although muck is more easily available as a manure than peat, and has consequently received more attention. Peat is a collection of vegetable matter, containing the elements of the greatest fertility, but usually combined with so much tannic acid as to preserve the materials from further decomposition. Examination shows that it is generally composed of coarse bog moss and grasses, such as the *Splachnums*, *Equisetums* and *Carexes*, and the gradual accumulation of these form masses from a few inches to several feet in thickness. Continual submersion in water, seems necessary to the growth of peat, or the moss must at least be constantly saturated. Swamp muck is usually a deposit; peat is the result of growth on the spot. Peat, when fresh dug, contains from 70 to 90 per cent. of water. When drained as dry as it will in favorable situations, "it will contain about two-thirds its weight of water, and a cord of peat when first dug, becomes one-fourth to one-third of a cord when dry."—(Dr. Dana.)

Formerly the mode of preparing peat for manure, was by drying and burning it. Large quantities are still so prepared in Flanders, and the celebrated Dutch ashes, the use of which produces such crops of clover, is nothing more than peat ashes. According to Professor Johnston these ashes are composed of—

Sileicious earth,	32 parts.
Sulphate of lime, (gypsum),	12
Sulphate and muriate of soda or glauber and common salt,	6
Carbonate of lime,	40
Oxide of iron,	3
Loss,	7
	100

The earths, carbonates, &c. vary very considerably, according to the nature of the substratum, but the quantity of gypsum shown to exist, is sufficient to account for the efficiency of these ashes on clover, as a source of general fertility. Some peat bogs are entirely barren, or according to Professor Johnston, are composed of inert vegetable matter, or according to Dr. Dana, of insoluble humus or geline. There are other peat bogs moderately fertile, and in these the vegetable matter is undergoing decomposition, or conversion from insoluble to soluble matter. Experience has proved that it is impossible to render peat fertile, or convert it into a soil fit for cultivation, without first draining it thoroughly, or covering it with earth. Some process must be resorted to to effect decomposition; the insoluble must be rendered soluble; the acids must be neutralized; and the mass undergo aeration to a greater or less degree, before any favorable results can be expected. These things are indispensable, whether the peat remains in its original place, or is removed; the first takes place when a peat bog or moss is rendered fertile; the latter when it is converted into manure.

It is to agricultural chemistry that we are indebted for a knowledge of the causes that rendered a substance so rich in the elements of fertility as peat was known to be, of no value, and also the method of removing the evil. The discovery that the fault lay in an acid, showed that an alkali would be the corrective; and acting on this principle, the change of peat or swamp muck from an inert substance, to one of the most convenient and active of the fertilizers, has become as easy as it is common. Manure, an ample and abundant supply of manure, is the grand desideratum in agriculture. All around us were vast masses of what should be manure, but which was by its constitution effectually locked up from the farmer's use. Chemistry has thrown him the key which unlocks the treasure, and already is the gift beginning to be properly understood and appreciated. It is probable that in this country peat will be more used for manure than for fuel, the use to which, in some parts of Europe, it is now mainly applied. The only question now is, as to the easiest and cheapest way in which peat and swamp-muck can be converted into manure. How shall the farmer give to peat the active decomposition necessary to generate ammonia, and thus change it into a substance not widely different from animal manure? The answer is ready, apply an alkali. The way in which this is best and most easily done, is to make the peat into a compost, either by mixing it with green dung in the compost heap, in which case one cord of fresh stable manure will convert two cords of peat or muck into manure as valuable as a fertilizer as the stable manure used alone; or by covering the cattle or hog-yards to the depth of from eight to twelve inches, according to the probable quantity

of manure that will be dropped upon it, with fresh peat or muck. This latter has one essential advantage over the former method, as by it the liquid manures, which are mostly lost in the ordinary way of making manures, is in a great measure saved for use. The alkaline salts in these animal manures, completely neutralize the acids which rendered the peat ineffective; they convert the insoluble into soluble geline or humus; and by their combination or absorption in the mass of vegetable matter, are retained for the use and benefit of plants. Peat is an important ingredient in the preparation of poudrette, and is far preferable for that purpose to the common mould which is sometimes used. In the preparation and use of peat as a manure, the farmers of Massachusetts, (and it should be recorded to their honor,) are much ahead of those in any other section of our country. This manure has already been the means of giving fertility to large tracts of land, hitherto worth very little; and has given a value to the peat and muck lands which they did not before possess. Used in connection with leached ashes, it is found that peat, or swamp muck, are invaluable, and the practice of selling off all the ashes made on the farm is there fast becoming obsolete, as it should every where else. Every farmer needs more manure. Almost every one can have a supply of peat or swamp muck for his yards or his compost heap. Let them try the experiment of converting this into manure, and we doubt not the result will be most satisfactory.

AN AGRICULTURAL SCHOOL.

BELOW we give from the "Book of the Farm," the plan of an Agricultural School or Farm, which strikes us as very simple in its mode of operation, and calculated to produce the good results which may reasonably be expected from such institutions. There are farmers in this state possessed of ample means to carry into effect a school of this kind, contemplated by Mr. Stephens, and it is to be wished they would ask themselves whether they could confer a greater benefit on the country, or more effectually promote their own interests, than by establishing an institution of the kind:

"To afford all the requisite information to the pupil in the highest perfection, and to assist the farmer in affording it to him in the easiest manner, I propose the following plan of tuition for adoption, where circumstances will permit it to be established. The more minutely its details are explained, the better will it be understood by those who may wish to form such establishments.

"Let a farmer of good natural abilities, of firm character, fair education, and pleasant manners, leasing a farm of not less than five hundred acres, and pursuing the mixed system of husbandry, occupy a house of such a size as would afford accommodation to from ten to twenty pupils. The farm should contain different varieties and conditions of soil,—be well fenced,—well watered,—and not at an inconvenient distance from a town.

"With regard to the internal arrangements of the house, double-bedded rooms would form suitable enough sleeping apartments. Besides a dining-room and drawing-room, for daily use, there should be a large room, fitted up with a library, containing books affording sound information on all agricultural subjects, in various languages; forming at one time a lecture-room for the delivery of lectures on the elementary principles of those sciences which have a more immediate reference to agriculture, and at another a reading or writing room or parlor for conversations on farming subjects. There should be fixed, at suitable places, a barometer, a sympleometer, thermometers, one of which should mark the lowest degree of temperature in the night, a rain-gauge, an anemometer, and a weathercock. No very useful information, in my opinion, can be derived by the farmer, from a bare register of the heights and depths of the barometer and thermometer. A more useful register for him would be that of the directions of the wind, accompanied with remarks on the state of the weather, the heat of the air as indicated by the feelings, and the character of the clouds as expressed by the most approved nomenclature. The dates of the commencement and termination of every leading operation on the farm should be noted down, and appropriate remarks on the state of the weather during its performance recorded. A small chemical laboratory would be useful in affording the means of analyzing substances whose component parts were not well known. Microscopes would be useful in observing the structure of plants and insects, for the better understanding of their respective functions.

"The slaughter-house required for the preparation of the meat used by the family should be fitted up to afford facilities for dissecting those animals which have been affected by peculiar disease. Skeletons and preparations for illustrating comparative anatomy could thus be formed with little trouble. A roomy dairy should be fitted up for performing experiments on the productive properties of milk in all its various states. A portion of the farm-offices should be fitted up with apparatus for making experiments on the nutritive properties of different kinds and quantities of food, and the fattening properties of different kinds of animals. A steelyard, for easily ascertaining the live-weight of animals, is a requisite instrument. The bakery, which supplies the household bread, would be a proper place for trying the relative panary properties of different kinds of flour and meal. Besides these, apparatus for conducting experiments on other subjects as they were suggested, could be obtained when required.

"Another person beside the farmer will be required to

put all this apparatus into use. He should be a man of science, engaged for the express purpose of showing the relation betwixt science and agriculture. There would be no difficulty of obtaining a man of science, quite competent to explain natural phenomena on scientific principles. For that purpose, he would require to have a familiar acquaintance with the following sciences:—with meteorology and electricity, in order to explain atmospheric phenomena, upon the mutations of which all the operations of farming are so dependent;—with hydrostatics and hydraulics, to explain the action of streams and of dammed-up water on embankments, to suggest plans for the recovery of land from rivers and the sea, and to indicate the states of the weather which increase or diminish the statical power of the sap in vegetables;—with botany and vegetable physiology, to show the relations between the natural plants and the soils on which they grow, with a view to establish a closer affinity between the artificial state of the soil and the perfect growth of cultivated plants; to exhibit the structure of the different orders of cultivated plants; and to explain the nature and uses of the healthy, and the injurious effects of the diseased secretions of plants;—with geology, to explain the nature, and describe the structure, of the superficial crust of the earth, in reference to draining the soil; to show the effects of subsoils on the growth of trees; to explain the effects of damp subsoils, on trees, and of the variations of the surface of the ground, on climate; with mechanics, to explain the principles which regulate the action of all machines; and which acquirement previously implies a pretty familiar acquaintance with the mathematics;—with chemistry, to explain the nature of the composition of, and changes in, mineral, vegetable, and animal substances;—with anatomy and animal physiology, to explain the structure and functions of the animal economy, with a view to the prevention of disease, incidental to the usual treatment of animals, and to particular localities. All young men, educated for what are usually termed the learned professions,—theology, law, and medicine,—are made acquainted with these sciences, and a young man from either faculty would be competent to take charge of such an establishment. Of the three I would give preference to the medical man, as possessing professionally a more intimate knowledge of chemistry, and animal and vegetable physiology, than the others. But the most learned graduate of either profession, will display his scientific acquirements to little advantage in teaching pupils in agriculture, unless he has the judgment to select those parts of the various sciences, whose principles can most satisfactorily explain the operations of agriculture. Ere he can do this successfully, he would, I apprehend, require to know agriculture practically, by a previous residence of at least two years on a farm. Without such a preparation, he would never become a useful teacher of agricultural pupils.

"On the supposition that he is so qualified, his duty is to take the direct charge of the pupils. His chief business should be to give demonstrations and explanations of all the phenomena occurring during operations in the farm field. The more popular demonstrations on botany, animal and vegetable physiology, and geology, as also on meteorology, optics, and astronomy, whenever phenomena occur which would call forth the application of the principles of any of those sciences, would be best conducted in the fields. In the library, short lectures on the elementary principles of science could be regularly delivered,—conversations on scientific and practical subjects conducted,—and portions of the most approved authors on agriculture, new and old, read. These latter subjects could be most closely prosecuted when bad weather interrupted field labor. In the laboratory, slaughter-house, farm-stead, and dairy, he could command the attendance of the pupils, when any subject in those departments were to be explained.

"The duty of the farmer himself, the governor or head of the establishment, is to enforce proper discipline among the pupils, both within and without doors. He should teach them practically how to perform every species of work, explain the nature and object of every operation performing, and foretell the purport of every operation about to be performed. For these important purposes he should remain at home as much as is practicable with his avocations abroad.

"The duties of the pupils are easily defined. They should be ready at all times to hear instruction, whether in science or practice, within or without doors. Those pupils who wish to study practice more than science, should not be constrained to act against their inclinations, as science possesses little allurements to some minds; and it should be borne in mind by the tutors, that practical farming is what the pupils have chiefly come to learn, and that practice may prove successful in after life without the assistance of science, whereas science can never be applied without practice.

"The duty common to all, is the mutual conducting of experiments both in the fields and garden; for which purpose, both should be of ample dimensions. All new varieties of plants might be first tried in the garden, until their quantity warranted the more profuse and less exact, though more satisfactory, culture of the field. On ridges in the fallow field, with different kinds and quantities of manure, and different modes of working the soil and sowing the seeds, experiments should be continually making with new and old kinds of grains, roots, tubers, bulbs, and herbaceous plants. In the course of time, the sorts best suited to the locality will show themselves, and should be retained, and the worthless abandoned. In like manner, experiments should be made in

the crossing of animals, whether with the view of maintaining the purity of blood of one, the improvement of the blood of another, or the institution of an entirely new blood. In either class of experiments, many new and interesting facts, regarding the constitutional differences of animals, could not fail to be elicited."

SALE OF STOCK AT THE STATE FAIR.

FROM what we hear from various quarters, we think there can be little doubt but that those who wish to purchase fine stock, will have a better opportunity to select such as they may want at the New-York State Fair, than has ever before been presented them in this country. They will then be able to compare the herds and flocks of different gentlemen, which will save them much trouble, and enable them to make their purchases much more satisfactorily than when under the necessity of selecting from a single yard. In addition to the extensive collection of pure bred animals from our own state, many of which will be brought for sale as well as for exhibition, we expect to see more or less from the adjoining states, as we are already apprised of the intention of several gentlemen from abroad, to send specimens of their fine animals to our Fair, in the expectation, in part, of finding an opportunity to dispose of them.

We publish with pleasure, the annexed letter from Mr. CLIFT, on the advantages which the State Fair offers both to buyers and sellers:

MESSERS. GAYLORD & TUCKER—I was gratified to learn from the last No. of your paper, that you have some assurances that the coming State Fair, which is to be held at Albany, in September next, will be well attended. You say "that you are inclined to think, notwithstanding the state of the times, this Fair will far exceed, in the number and quality of the stock, implements, &c. exhibited, as well as in the attendance of the public, any thing of the kind ever got up in this country." The very convenient location selected for the Fair, the efficiency of the men composing the Executive Committee of the State Society, and the spirit that is prevailing in respect to it, and I may add the good beginning that was made last year at Syracuse, I should think would warrant all you have said.

It has occurred to me that it will not be thought improper, but highly important, in order more fully to produce and realize such good results, that every man who designs to exhibit good blood stock at the Fair, either for sale, or to enter for competition, would timely give such notice through the columns of the Cultivator, or that in some way it should be made public, that all persons whether residents in the state or out of it, and who are desirous of obtaining blood stock, may have some more positive assurance that if they will attend at the Fair, there shall not be wanting an opportunity for them to make purchases.

Our annual State Fairs cannot be made what they ought to be, until it becomes perfectly a matter of reciprocal interest for the breeder and purchaser to attend them, the one to exhibit and sell his stock, the other to make his purchases. There must always be one advantage to the purchaser at such Fairs, as there he has the opportunity to compare and test the quality of animals of the various breeds, side by side, and can select according to his own judgment or fancy, much better than he could do, by viewing only a single herd or flock, and then he is of course at his own option, to purchase or not; whereas the breeder, perhaps, after all his toil, trouble, and expense, in attending the exhibition, &c. will have to sell at a sacrifice or not at all. He will however have an opportunity to learn one thing, and the sooner he learns this the better for him as a breeder, viz: if he is breeding a bad kind of stock, he will here, most likely, find it out by the same comparison.

With these views, Messrs. Editors, you will permit me to say to the readers of the Cultivator, and especially to those of them, with whom I have not had the honor of a personal acquaintance, but with whom I have had the pleasure of a correspondence in relation to my sheep, during the last four or five years, that if life and health be continued to me and mine, I intend to be at the N. York State Fair, with quite a number of my most choice selected Lincolnshire sheep, bucks and ewes, their ages from one to two years old, with perhaps a few lambs, from a late cross; I shall take them to the Fair for sale and show, and hereby invite honorable competition and inspection, with all others that may be exhibited at that time and place.

LEONARD D. CLIFT.

FEEDING CATTLE.

WE find in the Philadelphia papers, an article on stall feeding cattle, from the pen of Dr. MEASE, Vice President of the Philadelphia Ag. Society, which contains some valuable hints for those engaged in the business of feeding cattle, and the substance of which we propose to lay before our readers.

Dr. Mease says that animals on which it is intended to lay an extra proportion of fat should be in good condition when put up—otherwise they will not pay for the cost, feed and care. Each beast should have a handful of fine salt three times a week. The hay fed, should be of the first cutting (if clover,) and well cured. It should be cut before the leaves and blossoms are turned black, should be turned and exposed in curing as little as possible, and housed without being wet when it can be done.

Dr. Mease dislikes mixing timothy with clover when the growth is for hay, as they do not come to maturity at the same time, and the clover if left to stand for the ti-

mothy to mature, will be nearly ruined. Orchard grass mixed with clover, is not liable to the same objections; as they progress equally to maturity, and if cut when in full blossom, and not left too long in the field, make a hay which cannot be exceeded. From considerable experience with both timothy and orchard grass in connexion with clover, we are inclined to think Dr. Mease is right in this particular.

In feeding hay to the cattle, it should be given three times a day, and no more allowed than they will eat before the next feeding, as all animals dislike the food that has been breathed upon, or impregnated with the stable effluvia. All that is left at the times of feeding must be taken away, not mixed with the fresh allowance. Animals while fattening require water twice a day, and if they are obliged to walk some little distance for it, it will be no injury to them.

From 10 to 16 quarts of Indian corn and oats ground together, is to be fed to each animal three times daily during ten days; then half a peck of boiled mashed potatoes, with a handful of corn meal strewed over them. The water in which the potatoes have been boiled, must be thrown away, as I know it to be hurtful to animals. In a week a change may be made of chopped pumpkins, or sliced Swedish turneps, or sugar beet, for the potatoes. Changes of food improve the appetite, and prevent cloying, but corn meal, with or without oats, must be the never failing accompaniment of any other food. The ground corn meal or oats, is to be fed after the hay is eaten, at the several times of feeding. Great care must be taken not to over feed, and the appetite must be carefully watched. The farmer should take the alarm the hour that he sees the animal leave any of his usual allowance in the trough or rack, clean out both, and by a daily walk, extra carding, and if necessary a dose of Glauber salts, try to restore the appetite. The food, other than hay, should be given in a box, and in the trough, alternately, that they may be daily washed or dry-scrubbed and scraped, to prevent any food from remaining and becoming sour, which will infallibly disgust the animal. Cleanliness here is a point of the first importance, but it is one too often overlooked by the feeder. Flax seed jelly with corn meal, fed occasionally, will soften and loosen the skin, and produce that "kindly feel" so essential in all fattening cattle.

Carding the animal thrice daily with proper cards, is an all-essential part in the process of feeding. Its effect is excellent on the animal, and is always highly grateful, as well as salutary. Medical men are well acquainted with the intimate connexion subsisting between the state of the human corporeal surface, and the stomach, and viscera connected with digestion, and the same connexion is observed in the ox when feeding. Regularity in the hours of feeding and watering, is an essential thing in feeding any animal.

Clean, sweet, cut straw, sprinkled with corn meal and salt, may be given for change, and will be eaten freely. The stalls must be properly ventilated, as fresh pure air is necessary to the health of any animal. Attention must be paid to their feet, and if the cleft is obstructed or sore, a dossil of tow dipped in spirits of turpentine morning and evening, for three or four days, will be a good application. The stalls must be kept clean, and straw in abundance, for bedding, provided. They should never be allowed to stand or travel in wet manure, as their feet will in most cases be injuriously affected, and a consequent loss of appetite ensue.

NECESSITY OF ECONOMY.

THERE have been few years in which the necessity of economy in the farmer, and general prudence in the management of his affairs, has been more apparent, than the present. The low price of produce, and small decline in the price of labor; the difficulty with which remunerating sales are made of animals and farm crops, and the general firmness of price in the articles he is compelled to purchase; all indicate the propriety of paying particular attention to his income and his expenditures. This is particularly the case with him who is in debt; or who having little in advance, is dependent on the annual proceeds of his farm, and his labor, for support. There are a few classes that the pressure of the times, the price of produce, or the scarcity of cash, scarcely reaches. They are those who subsist on the fees of office, or the interest of their money. Such do not stand in need of lessons of economy.

But it is well for all to remember, that there is a wide difference between economy and parsimony; between prudence and covetousness. If reform in expenditure is proper, the farmer should see that it falls on those things which are least essential to his present or future prosperity. It would be the height of folly to commence a system of curtailment by dispensing with any of the necessary implements of the farm; the want of these, would certainly produce the evil he designs to avoid. Equally erroneous would he be were his retrenchment to fall on any of those things necessary to enlarge and inform the mind; and thus promote the intelligence, respectability, and consequent happiness of himself and family. Far better would it be to dispense with a new coat, than with the means of instruction; to forego the dainties or luxuries of the table, than to starve the mind. The importance of this point cannot be too strongly urged on the mind of the farmer; or the truth too forcibly or frequently impressed, that economy, or we should rather say parsimony, here, is a serious crime, and the means of inflicting irreparable injury. So too, if the farmer concludes to have little to do with his mechanics, when

he requires the product of their skill, and is able to reward their labor, he is indirectly injuring himself, and positively injuring them. He is compelling them to forsake their work benches, or their anvils, and commence farmers, a result which would have a tendency directly, by increasing the quantity of produce thrown into the market, to reduce the price of his own, and thus injure himself. Besides, the mechanic cannot be dispensed with by the farmer, and the soundest dictates of economy would demand that he should receive the encouragement and support, his merits and his wants require; or his services, when most wanted, may not be within reach, or available. It is not in these and similar things, that economy should be begun; but let the farmer, when he is tempted to purchase any thing, ask whether it is necessary to possess it; and if he will further make it a rule to invariably pay down for what he purchases, he will be astonished at the aid it will give him in becoming properly economical. Thousands of farmers have been ruined by having such excellent credits. A man's credit is in some respects like his stomach; neither can be overloaded or overtasked with safety; and the surest sign they are in a healthy condition, is when their functions are performed without his cognizance or attention.

WORMS.

If we may credit the accounts which are reaching us from all parts of the country, the present year will be as noted for the ravages of worms, as for snow storms in June. By the way, we find some of our eastern and southern friends are inclined to doubt the truth of the statements that great numbers of sheep perished in some of our middle and western counties during the storm of rain and snow of June 11. There is no room for doubt. A sheep stripped of its fleece, and within a few hours exposed, and this was the case with thousands, to a temperature of 30°, could scarcely escape with life. We have known many die after shearing, from exposure to a storm, much less cold and severe than that of June. But to return from this digression. It seems that the damage inflicted this season on the farmer, and fruit grower, by worms has not been confined to one kind as is frequently the case, but that all varieties or species of these depredators have multiplied and thriven, and that in spite of rain or snow, apace.

In the south and west the army worm has done immense damage. Cotton and corn fields have been ravaged; and wherever the millions of this foe have shown themselves, from Wisconsin to Louisiana, the crop and the hopes of the farmer have disappeared almost in a twinkling. In the east the canker worm has committed its usual depredations on fruit and forest trees, and given ample opportunity for testing the preventive qualities of the lead or tin troughs so justly recommended. Every where the caterpillar has appeared in thousands, and the disfigured and defoliated orchards that are seen wherever we go, prove the prevalence of the pest, and we add the negligence of the farmer. There can be no good reason given why these ravages of the caterpillar should be permitted. If taken at the proper season, while the worms are in their nests, a little time and care will exterminate the whole race; but if left till they are scattered over the tree, or if their nests are destroyed while the occupants are abroad feeding, the efforts at destruction will avail little. It will take years for some orchards to recover from the damage they have this year received, even should they not perish; and as for fruit, the owners will in vain look for it on these trees so closely stripped of their flowers and foliage. While some of these tribes of depredators have been carrying on their operations above ground; another, and scarcely less numerous class, have been as active beneath the surface. From all quarters we hear complaints of the damages caused by the wire-worm and the cut-worm, and perhaps the farming public have suffered more from these, than from all the others combined. The first has been most destructive to all kinds of spring grain, and has spared few, if any, of the young shoots of the germinating plants. Whole fields of corn have perished, and there are few that have not more or less suffered. Potatoes were much damaged by them last year in some places; the wire-worm penetrating them by boring, and rendering the surface rough, and subject to decay. In the gardens and corn fields, the cut-worm has done much damage. Cabbages, beans, melons and cucumbers have been cut down, and in some places, or where constant attention has not been paid to killing them, the gardens may be said to have been destroyed. It is somewhat singular that the extreme cold of the winter, the backwardness of the spring, or the extraordinary low temperature of the forepart of June, seemed alike ineffectual in preventing the development of these caterpillars and worms, or retarding their progress. The origin, the transformations and the habits of the most of these insect destructives, have been very satisfactorily determined; yet the laws which govern their appearance, causing them in one year to appear in countless myriads, and in another to be almost unknown, have not yet been revealed. Their ravages, however, clearly demonstrate that there is no creature so insignificant in itself, as not to be able when sufficiently multiplied, to become one of the most formidable scourges that visit mankind.

ENCOURAGEMENT FOR FARMERS.—General Dearborn, in a late lecture before the farmers in the Massachusetts Legislature, declared that 97 out of every 100, who obtained their livelihood by selling, failed, or died insolvent. These facts were collected from custom house books, banks, probate offices, &c. &c.

DICTIONARY OF TERMS USED IN
Agriculture and its kindred Sciences.

HUMUS.—Plants are supposed in some form to derive their nourishment from a peculiar substance in the soil, called *humus*, and which is the result of the decomposition of other and previous plants. "Humus is described by chemists, as a brown substance, easily soluble in alkalies, but only slightly soluble in water, and produced during the decomposition of vegetable matters by the action of acids or alkalies." "Woody fibre in a state of decay, is the substance called *humus*."—(Liebig.) There are various modifications of *humus* known to chemists; those which are soluble in alkalies are called *humic acid*, while the insoluble modifications are called *humine*. Dr. Dana applies the name of *geine* to this substance, and divides it into soluble and insoluble *geine*, and considers that in the three states of vegetable extract, *geine*, and carbonaceous mold, it is the principle which gives fertility to soils long after the action of ordinary manures has ceased. He pronounces it to be the "decomposed organic matter of the soil." That *humus* owes its origin to decayed vegetation, can scarcely be questioned: but the manner in which it produces the fertilizing effects on the soil, or rather in what manner it is made subservient to the growth of plants, is a question which is exciting no little interest, and is certainly one of importance to the farmer, as well as the vegetable physiologist. The more common opinion has been, that *humus* was no further available than it was soluble, and that in this state it was taken up by the roots of plants and converted by their vital action into the substance of the plant. Others, and among these are the celebrated chemists Liebig and Raspail, maintain "that *humus*, in the state in which it exists in the soil, does not yield the smallest nourishment to plants." That plants may receive some nourishment from *humus* in the shape of humates, or *humus* combined with an alkali, such as humate of lime, would seem probable, as such humates become soluble in water: but the ingenious experiments of Liebig prove that but a small part, if any, of the nourishment of plants is actually derived from that source. *Humus*, then, must be available in some other way than by actual absorption by the roots, and this way, Liebig contends, is by its gradual conversion into carbonic acid gas. Several *Hydatids* attacks have been made on the German chemist for his assertion that *humus*, as it exists in the soil, is of no avail to plants, but if *humus* is only the decayed matter of plants, it is clear that, no matter how fine its particles may be, it must undergo some change before it can be taken up by the plant, or converted to nourishment in any way. The modern doctrine is, that plants derive most of their nourishment, or in other words, the carbon which constitutes the most of their structure, from the carbonic gas of the air; and that *humus* is only or chiefly useful in furnishing a constant supply of this gas for the use of the plant. It seems to us, however, that as carbonic gas is readily soluble in water, or combines with it in large quantities, that in this form it is presented to the roots of plants, and appropriated by them to their growth or nourishment, as well as from the air by the leaves. This opinion is sustained by the remark of Liebig, that every root and leaf acquired by the plant, gives it a new mouth and stomach. Common manures, such as are derived from vegetables principally, are of little use until decomposition has been effected, and the formation of carbonic gas has commenced. Those manures in which the nutritive and stimulating properties are combined, or those in which ammonia exists with the carbon, are found to be the most efficient, and the earliest in their action on plants. The prepared manures belong to this class.

HURDLES.—In the cultivation of silk, various methods have been adopted for the feeding of the worms, so that the dangers arising from crowding, or from the filth of their excrements and fragments of leaves in feeding may be avoided. In consequence of a neglect of these things, disease is engendered, and the whole of the worms are not unfrequently destroyed. To prevent this, it has been proposed to feed them on a kind of network called hurdles, through the interstices of which all offensive matter falls, and by turning which, the rejected leaves are easily removed without disturbing the worms. Several American silk growers have directed their attention to this point, particularly Mr. Morris of Burlington, N. J., Dr. Goodsell of Utica, Mr. Fox of Mt. Pleasant, Ohio, and perhaps others, and very great improvements have been made, combining neatness and ease in feeding, and contributing much to the health and productiveness of the worm.

HYBERNATION.—That state of inaction and rest which some animals and many plants undergo during the cold season of the year is called *hybernation*, and exhibits some remarkable phenomena well deserving the attention of the naturalist. On the approach of winter, the badger, marmot, ground squirrel, frog, toad, snakes, &c. betake themselves to their retreats in the earth, where in a torpid, motionless state, with but just circulation enough to preserve vitality, they remain until the returning summer rouses their dormant faculties to action once more. Those instances in which animals and insects have been found in positions where they must have remained for centuries, as toads, frogs, bees, &c. in solid rocks, are examples of continued *hybernation*, produced by being placed in a position where the temperament and the confined state adopted at the commencement of the *hybernation*, is continued by causes afterwards superinduced. Thus, the bats enclosed in the old mine at Cheshire, Connecticut, by a slide from the mountain, while

in a state of *hybernation*, remained in that state for more than a quarter of a century, and were so found at the re-opening of the mine. Thus, toads, *hybernating* in swamps, if covered while in that state to a depth which would prevent the usual effects arising from the changes of the seasons, would remain in that position, and the subsequent conversion of the covering matter into stone, would enclose them forever in the rocky mass. It is to this indurating process that we must ascribe the wonderful preservation and continued vitality of those reptiles which are found in the sandstones of the transition series. The condition of plants too during our winters, in which the sap ceases to circulate, or circulates but to a limited extent, and in a languid manner, is a species of *hybernation*. It is a rest of the plant, a cessation of its functions, growth ceases, and what may be called a sleep of the plant ensues. Other causes may produce this rest of plants. Numerous instances occurred the last fall, (1841,) in which a second blossoming has taken place, and the flowers of the first of October have vied with those of May or June. This reviving of the plant has been noticed in the apple, plum and pear. It is unquestionably to be attributed to the check which the extreme hot and dry weather gave to the trees, and which produced on them an effect similar to that of the *hybernation* of tropical plants. The functions of the plant were for a time partially suspended: heat had performed the effect of cold; the secretions of the plant which prepare it for blossoming and re-production had been performed, and when rains succeeded the drouth, their blossoming in October as well as in May, was the natural result.

HYBRIDS.—When copulation takes place between different species of animals, the progeny, which in some cases is the result, is termed a *hybrid*, as partaking of the qualities of both, yet distinct from either. Thus a connexion between the ass and the mare produces the mule; and between the horse and the female ass, the hinny, the two most common hybrids among animals. Hybrids among animals do not have the power of re-production; a proof that muling is a violation of nature's law, by which the races as distinct species is governed. There is at present in the Highlands of Scotland a hybrid between the stag and the mare, the first ever known. Hybrid plants are quite common, and there is no so certain way of producing new varieties, as by muling or cross breeding; and in the language of Professor Lindley, "it is to this process more than to any thing else, that we owe the beauty and excellence of most of our vegetable garden productions." The operation of producing hybrids, or of muling plants, is very simple, consisting in nothing more than the applying the pollen of one plant to the stigma of another. Some precautions are, however, requisite in this, such as depriving the flower intended to be fertilized of its own anthers, otherwise the stigma will be self-impregnated, and the pollen must be applied at the proper season, when the peculiar mucus which detains the pollen is present on the stigma. The power of muling is among plants however confined within narrow limits. Mr. Knight, who was probably more successful in the process of muling than any other man, and to whom we are indebted for some of the finest of our modern fruits, was never able to make a cross between the Morello and the common cherry. Professor Lindley says he has "in vain endeavored to mule the gooseberry and the currant," and the apple and the pear, the blackberry and raspberry, have never mixed though such a result might reasonably have been expected.

HYDATIDS.—These are animals, generally pear shaped, found in various animals, where they are parasitic, and resembling a vesicle or bladder filled with water. It was for a long time doubted whether they had an independent existence, but as they have evidently a voluntary motion, and as they have the property of acting on matter in such a way as to convert it into a substance like that which constitutes the agent, (which according to Roget, demonstrates a vital power,) there is no reason to suppose it has not a distinct animal existence. Hydatids occur sometimes in man, but more frequently in animals. In hogs it causes the measles; in sheep, in the brain they cause the staggers, and in the liver the rot; and some of them are lodged in the tissue of the muscles, while another, the *Hydatid globosa*, is frequently observed on the intestines of pigs. Sheep are best cured of these parasites by a removal from all wet, low land, to dry pasturage. They have in some desperate cases, where the affection of the brain was indisputable, been cured by trepanning and the extraction of the hydatids.

IN-AND-IN BREEDING.—This is a term applied by the breeders of animals to that kind of propagation where both are of the same blood, and the nearest relations possible. Although some of the most decided improvements have been made by following this system of breeding in-and-in, yet it has only been done by the most judicious selections, and the exercise of cautious judgment, while in the hands of the ordinary breeder it is sure to run out a stock, degenerating them rapidly, rendering the males impotent in many cases, and the females of little value as nurses or breeders. Experience seems to have proved that crosses of the same variety of animals, but of another family, have made the best animals, and such a course is to be preferred to breeding in-and-in. In some cases, where there is a marked superiority in any race of animals, which it is wished to retain, a cross with a race less perfect in some respects, perhaps, but more vigorous, making what Berry calls a strong cross, and then breeding directly back to the favorite blood, has been very successful. The first at-

tempts to improve the short horns, Berkshires, &c. received serious checks from this system of in-and-in breeding, and both Berry and Collings found it necessary to give more vigor and constitution to their animals, by an infusion of different, and in some respects inferior blood.

INDIAN CORN, (Zea Maize.)—One of the most valuable of the plants cultivated for the use of man, or animals; a native of America, but now spread over a large part of the habitable globe, and where cultivated, constituting an article of bread in perhaps more general use than any other. Corn requires a warm climate, a rich soil, and good cultivation; under these circumstances the product per acre will rise high, many instances being reported of crops from 100 to 150 bushels. In England and Scotland the average temperature of the summer is too low for corn, and few attempts are made to cultivate it; while in the United States it is extensively grown in all parts; and in parts of the middle, and over the entire south, it constitutes the chief or only source of bread. There are many varieties of Indian corn. In the excellent treatise on this plant, Dr. P. A. Browne, of Pennsylvania, 11 kinds of yellow corn are enumerated; 9 kinds white corn; 10 of red corn, or red cobs; 2 of blue corn; and 4 of varieties not properly classed with either of these; making some 35 in the whole. Since this treatise was written several new varieties have been noticed, among which is the singular corn called rice corn. Some of the varieties of the white corn differ from each other but by slight shades, and the same remark may be made of the yellow. We have the present year cultivated some 26 varieties, most of them very distinctly marked, but some of them with variations very slight, and which we can hardly consider permanent. This is particularly the case with two or three of the small eight rowed whites. Corn differs in the shape of the grain, in the color, in the color of the cob, and in the number of rows on the ear. Northern yellow corn is considered as the most nutritive, is preferred in distilleries, and can be preserved longer in a perfect condition than any other; but the southern white is generally preferred for bread, or rather for the hot cakes, in which form it is most commonly served up in the south. In cultivation that corn is to be preferred which gives the greatest weight of stalks, cobs, and corn per acre, where the climate is such as to ensure its ripening; but where it is necessary that early maturing kinds should be chosen, that variety which has a large kernel and small cob is to be preferred, as the cob is the last part of the ear that reaches maturity, or that state of dryness in which it is safe from mould. At the north the Canada white flint, Toronto yellow, Oswego long white corn, twelve rowed yellow, Dutton and Brown corns are much cultivated; while in the south the white and yellow gourd seeds, Dent corn, &c. are most esteemed, and where the soil is of proper richness grow to a great size. No part of the world seems so well adapted to the culture of corn as the Mississippi Valley, and the quantity already produced, is almost incredible. It is cultivated with so much ease, the labor required is trifling, and the product per acre so great, that it will in some way, constitute the great staple of the west.

IRRIGATION.—The importance of water to vegetation is known to every farmer, yet very few are the instances in which this natural want is supplied by artificial means. In most cases by a wise dispensation of providence, showers supply the requisite moisture, and of all water that can be applied to plants, rain water is found the most suitable; but there are some soils and some crops which require more water than others, and which are greatly benefitted by artificial supplies. Thus the drifting sands of Arabia, are arrested and covered with vegetation by water; the rice fields of India and the south are flooded to secure a crop, and irrigation, or an occasional flowing of water from brooks, rivers, or springs, over meadows is found to add much to their productiveness. All water contains more or less matter essential to plants. The soluble salts, the finely divided organic matters, and the richest parts of all soils are continually passing away in the streams by which our fields are watered, and it is this cause which forms one of the drawbacks on their fertility. To arrest and detain these matters from wholly passing away, and being lost to the soil, is another important end of irrigation. The more foreign matter any water contains, the more valuable it will be for irrigation; thus river water is better than that of springs, and rivers below large towns, are found to act far more effectively than above. Of this there is abundant evidence in the use of the Thames water below and above London, and particularly the celebrated Craigintny meadows below Edinburgh. Water generally contains sulphate of lime, at least all hard waters do, and a single flowing of a meadow with such water for a few days, besides the other materials it deposits will leave more of this sulphate or plaster, than is usually applied per acre by farmers. Some of the best meadows and lands of England, have been formed by flowing them and increasing the deposit until poor lands have become like the richest alluvion. In this country, few instances of irrigation have as yet been attempted, but where it has been done by system, and with reference to permanent results, they have proved most successful; and the practice, as the soils become older and other methods besides manuring become proper to promote fertility, will doubtless be common.

To accomplish much, a man must live as if he were immortal.

Original Papers from Contributors.

CURING AND PREPARING PROVISIONS FOR THE ENGLISH MARKET.

THE revision of the tariff upon provisions, by the English government, will have a much more important bearing upon the agricultural interest of this country, than any, and indeed all the changes that could be safely made in their corn laws. At present prices even, without any change in the duty, both beef and pork could be sent to the English market at a profit, if it had been cured in the same manner, and put up in the same kind of packages, which has been so long the custom in that country. It is useless to expect a whole nation to change their customs to suit our views; and if we would avail ourselves of their markets, we must conform to their customs and prejudices; if the fixed and unchanging habits of a whole nation must be called so.

Foreseeing that at no distant day the provision business must become the great business of the country, while in Europe last winter I endeavored to make myself perfectly familiar with every thing connected with the provision trade. I visited the great curing and packing establishments in Ireland, and made myself master of the whole subject of curing and packing provisions. I then visited the great markets of Europe, Liverpool and London, and under the instruction of some of the oldest and most respectable provision merchants of those cities, endeavored to make myself thoroughly acquainted with every thing relative to the wants and peculiar shades of the different markets. While abroad, I gave you the result of my observations relative to butter and cheese. I now give you, in as condensed a form as possible, the best method of curing and preparing for the English market, Beef and Pork, and hope it will not be without interest and profit to your numerous readers, especially in the west and southwest.

PORK.—There are various kinds or divisions of Pork—depending upon the size and quality of the hogs, and the market for which it is intended. There is Bacon singed and scalded, which is divided into whole side Bacon or Middle. Barreled Pork is divided into Prime, and Bacon Mess, and is put up into barrels and tierces.

In some parts of England they will not purchase or use scalded bacon, in others they make no difference. In this country the market requires but one kind; and there is but one kind that can be shipped to any profit, and that is known as tierce middles.

Whole side bacon is prepared by cutting out the chine or back bone, cutting the head off close at the ears as possible, and the legs at the knee joint. The ribs are broken by passing a fine saw across them two or three times, the shoulder blade taken out, and the whole side trimmed and made to look smooth and slightly. If it is from a heavy hog, the knife is run into the ham so as to enable the salt to penetrate readily to the knuckle joint, and sometimes about the fore shoulder. From the cutting block, it is passed to the rubbing table. Here all the holes are filled with salt, and salt is spread freely over it, and rubbed in by men with a kind of iron glove upon their hands. After the salt has been well rubbed in, the sides are piled up on the floor in layers of from six to ten deep, flesh side up, salt being freely put between each side. During the process of curing, the sides are repacked several times, depending upon the weather, sometimes as often as every other day. In about ten days the meat is sufficiently cured for market. The salt is brushed off clean with a twig broom, the side again carefully trimmed, scraped and smoothed down by beating it with a flat board, and then passed to the baling or packing room. Five sides are put together, with a thin layer of salt between each, and then sewed up in a coarse kind of bagging manufactured for the purpose. In this condition it is shipped to the London market, and with a little care will keep in good order for months. Hams and shoulders are cured in the same manner, except some use saltpetre with the salt when first rubbed in. Many prefer their bacon and hams dried rather than smoked, but when smoked great care is taken to keep the meat of as white a color as possible. To do this well, the meat should be quite dry when hung up in the smoke. Competition is very keen among the Irish and Continental provision curers, and great skill is used to make the best article. Hence the utmost pains are taken in curing and putting up their bacon, hams, and dried beef, and many of the most intelligent men of the country are among the provision merchants of Ireland and Hamburg. Tierce Middle is the middle or broadside of the hog, between the ham and shoulder. It is cured in the same manner as the whole side, but in preparing for the English market, I should recommend to put it up clear of all bone, and should therefore take out not only the chine, but all the ribs. It is put up in tierces holding about 300 lbs., and treated the same as salted pork.

A profitable trade might be carried on between Western New-York and the New England states, during the fall and winter, in *baled* bacon, if freight could be carried over the Utica and Schenectady railroad at reasonable rates, and Boston would become our best market for most if not all kinds of provisions, as we should not be compelled to keep our pork or beef on hand until the opening of navigation in the spring.

Pork is cut into 4 or 6 lb. pieces, according to the size of the hog. Where the carcass weighs 250 and under, it is cut into 4 lb. pieces; large hogs are cut into 6 lb. pieces. The hog is first split through the back bone in half. Then passed to the trimming block where the half head and legs are cut off, the leaf and tender loin ta-

ken out, and the whole side split lengthwise through both the shoulder and ham, and as near the center as is consistent with the proper shape and size of the different pieces. From the trimming block the strips pass to the scales, where the weight is ascertained, and called to the man at the cutting block, who divides each strip into the requisite sized pieces. Both the splitting and piercing require skill and judgment, as much depends upon having the pieces well and sizeably cut. From thence it goes to the rubbing table where each piece is thoroughly rubbed in salt in the same manner as in curing bacon. After the salt has been well rubbed in, it is put into pickling tubs holding from three to five hundred pounds, well covered with salt, but no water or brine added. Here they remain from 8 to 10 days. It is then taken to the washing trough or vat, where each piece is thoroughly washed in clean brine, trimmed, and *tormented*, as the process of trying is called. The *tormentor* is an instrument of wood or metal, the size of a small dish, and is thrust into the lean parts of each piece, to ascertain that it is properly cured and free from taint. It is then messed and weighed, so that the requisite number of pieces shall weigh exactly the number of pounds for the barrel or tierce. It is then put up in the proper package, and freely salted while packing, and saltpetre added at the rate of a common wine glass full to the 100 lbs. The last layer is pounded in by a heavy iron weight, and capped with coarse salt. It is then passed to the cooper, who puts in the head, and puts on to the barrel one, and on to the tierce at least three iron hoops at each end. The package is then filled with clean strong brine, bunged tight, branded, and is then ready for market.

The great utility of this method of curing consists in the certainty of the meat keeping in good condition for years in any climate. The blood gets all drained out of the meat before it is barreled, and hence one great cause of injury is avoided. I saw pork and beef which had been two years in the barrel, which was as sweet as when first put up, and the brine was perfectly clear. A friend in London, unpacked several packages of Irish and Hamburg cured provisions, by the side of American. The contrast was anything but flattering to our taste or skill. I could very readily see why our beef and pork bore so bad a name in the market, and was so much of a drug. The meat was not inferior, but it was badly messed, worse cut and cured, and the brine nearly as red as blood, and presenting by the side of the other, not a very palatable appearance. The large hogs or heavy pork, which is uniformly cut into 6 lb. pieces, is packed in tierces, and is called India or navy pork. The 4 lb. pieces are put in barrels.

A barrel of *Prime Pork* should contain from 25 to 30 pieces, cut from the ribs, loins, chins, and belly pieces, all lying between the ham and shoulder, forming what is called the broad side or middle. 3 hands and 2 hind leg pieces, or 3 hind leg pieces and 2 hands, and 15 or 20 pieces from other parts of the hog, except no part of the head. The meat must be of prime quality, firm, and well fattened, cut into 4 lb. pieces, exactly 50 to the barrel, and weigh not less than 200 lbs. net, and must have a good capping of St. Ubes, or other coarse salt. This is indispensable. *Bacon Mess Pork*, is so called, when the full proportion of prime pieces in *Prime Mess* is withheld; there is therefore various classes of *Bacon Pork*. Tierces contain the same number, that is, 50 pieces of 6 lbs., and the same rules as to messing, are to be observed, as in the barrel. The tierce must have not less than 300 lbs., and well capped with salt. It is usual to put in 52 pieces. In *Bacon Mess*, the number of prime mess pieces should be marked upon the head. No part of the hog's head is allowed in any instance.

Beef is uniformly cut into 8 lb. pieces, and cured in all particulars, precisely as pork, except a larger proportion of saltpetre is used in packing. Beef is almost entirely packed in tierces. For export, tierces only should be used.

A tierce of *Prime India Beef*, should contain 42 pieces, 8 lbs. each, and weigh not less than 336 lbs. net. It should be made from well fed bullocks, and contain 32 pieces of loins, flanks, rumps, plates, buttocks and briskets; 10 pieces, consisting of 4 chins, 2 mouse buttocks, 2 shells of rumps, 2 pieces cut close up to the neck, with bone taken out; no shins, thigh bones, or necks. To be well salted, and capped with St. Ubes or other coarse salt.

A tierce of *Prime Mess Beef*, should contain 28 pieces of 8 lbs., and weigh not less than 224 lbs. net. It should be made from prime fat cows and heifers, 28 pieces of prime, from loins and chins, with one rib in each, flanks, rumps, plates, briskets and buttocks, with 10 coarse pieces, consisting of 2 neck pieces, not the scrap, 2 thighs or buttock bones, with some meat to them, 2 shells of rumps, 2 or even 4 chins, not cut too close to the neck, and 2 shoulder pieces with part of blade bone in them, well salted and capped with St. Ubes or other coarse salt. The tierces, whether for beef or pork, must be made of well seasoned oak, with 8 wooden, and 3 iron hoops on each end.

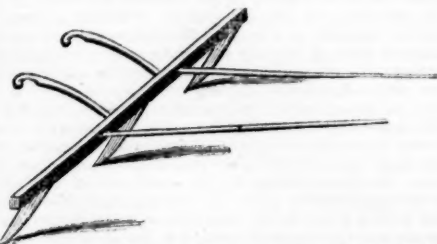
No pains to be spared in preparing and putting up, as the neat and tasty appearance of the packages will insure a more ready sale, than if put up in a slovenly manner.

There is much that one cannot well make intelligible upon paper, and can only be learned by personal observation. I have endeavored to communicate enough to enable any experienced butcher or packer to prepare provisions for a foreign market, if desirous so to do; and the method described is the one in general use in Europe, and if adopted in this country, will enable us to enter the English market in successful competition with the Continent. I trust the season will not pass without finding several establishments preparing and curing pro-

visions according to the Irish method. I had intended to have given their method of preparing Lard, but this article has gone to such a length already, that I must defer it until another number.

Darien, Genesee Co. N. Y.

T. C. PETERS.



STRAIGHT ROWS, AND CORN GROUND GAUGE MARKER.—(Fig. 72.)

MESSRS. GAYLORD & TUCKER—How few there are among the agriculturists in this extensive country, who, when preparing their ground in the spring, for the reception of the seed, (and I say it with regret,) mark it out in perfectly straight rows. But the reason?

First, say they, "it is of little or no consequence to have the rows entirely straight, for more corn will grow in a crooked row, than in a straight one; and it will grow just as well, and just as large."

And secondly, "if we are going to be so particular, and undertake to have every row exactly straight, we never shall finish planting; and so we must go ahead, and finish it at some rate or other."

Now, I am one of those sort of chaps, who will baulk, square from the mark, at such half-way, any-how business. My motto is, be sure I am right, and then go straight ahead, or not at all.

But the idea, that too many cherish, that more corn will grow in a crooked row, than in a straight one, is altogether wrong; and it will require no profound logic to refute it; for when rows run both ways, there are just as many hills in a row, if it crooks half way across the field.

And, furthermore, when the rows are entirely straight, and exactly parallel with each other, the horse and cultivator will pass between them, with little or no danger of treading down or tearing up any corn; whereas, if they stand like the honest Indian's trees, so that two only will range, it might be a matter of expediency to have leather goggles on the fore end of the cultivator, in order to avoid running over those hills that might be in the way.

In my travels, I have observed, with the eye of a connoisseur, the many fields of grain, and the rows; and the number which were marked out entirely straight; but a vast majority of them, look for straightness, says Crisbon Cardin, "as if the grain sprang up spontaneously from the seed, which was scattered there by the wind, or as if some harum scarum had planted in the mark made by a crooked rail, which had been hauled across by a zig-zag streak of the electric fluid."

Straight rows are the beauty of the corn field, as straight fences exhibit the order and neatness of the farm; and, in my humble opinion, are in a measure characteristic of the intelligent and systematic farmer.

Who can look on a field of corn, just after the tender spires have emerged from the fertile soil, and view the beautiful green leaves expanding wider, and shooting higher, to catch the refreshing dew, which on them glitters in the sun beams of the morning, "like diamonds in sockets of gold," and not experience, in some degree, a kindling up of his feelings into rapture?

But many consider it almost an impossibility to work corn ground entirely straight; the reason is obvious, they undertake to perform that difficult piece of labor, with a very improper tool. Some use the sleigh, others a couple of pieces of wood pinned together, and a variety of other tools, with which I would defy the face of clay to make a straight mark; and thus they are obliged to guess at a part, and then take up with crooked rows.

Now this is absolutely out of order, as every one may see; and the difficulty may be remedied, by using the gauge marker, a cut of which, I transmit to you.

It is simple in its construction, performs its work with the greatest accuracy and perfection, makes the rows of an uniform width, and in fact, is just the utensil for that business. We have used this only, for a number of years to mark with, and experience clearly demonstrates that it is superior to any thing now in use. But to the description.

The head, into which the thills, handles and markers, are morticed, is a piece of timber six inches in diameter, and seven feet in length, so that the marks will be three feet distant, (more or less, if necessary.) The markers incline backward at an angle of forty-five degrees, and the outside ones return in their own mark, in order to gauge the distance, which is guessed at when we mark with the plow, &c. By taking a little pains, in making the first mark straight, the whole field may be marked as straight as we can draw a line. This is just such a machine as each farmer should have; for it will mark as fast again as the plow, and will make the mark on the surface of the ground, which is all that is necessary for corn.

Farmers, try the gauge, and my word for it, if you use it right, (which, by the way, one in fifty cannot at first,) I will guarantee your rows so straight, that a cannon ball would clip every hill in a row. Yours truly,

Lansing, Tompkins co., N. Y.

S. E. TODD.

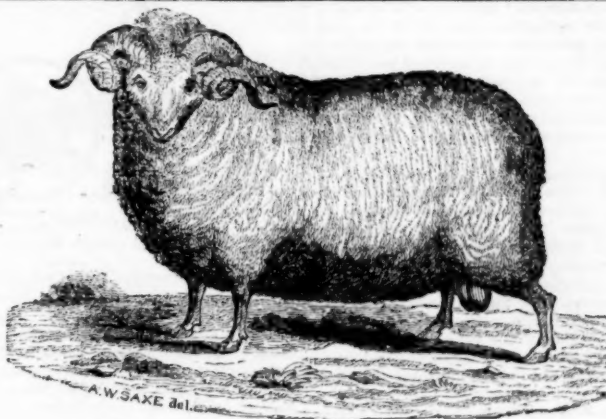
SHEEP HUSBANDRY.

EDITORS OF THE CULTIVATOR—Although this is a busy season of the year for the farmer who devotes his time practically to the management of his farm, and he has but little time to write long essays, yet I cannot refrain from addressing you a few lines on a subject, which from early life, has drawn my attention more than any other branch of Agriculture, namely, the raising of domestic animals, but more especially that of sheep. And first, let me say that I experienced much pleasure in reading the remarks of Mr. L. A. Morrell, in the May number of the Cultivator, on the subject of crossing the fine wool with the coarse mutton sheep, and am glad he has invited a discussion on the subject. I agree with him that the great mass of our farmers are lamentably ignorant on this point. There seems to be a fatal delusion to produce too large carcasses, not only in sheep but cattle also, at whatever cost; and that in proportion as you increase the weight or size of your sheep, is their profitability enhanced, without taking into consideration cost of production. Is this the true principle of good husbandry? If it is, then have I been mistaken all my life. My motto is—and it was inculcated in me in early life—that to produce the greatest profit or amount of value at the least expense, is the most profitable husbandry; and it should be that of every farmer. Am I right or wrong? If I am wrong, I wish to be corrected. But in the various experiments that I have made in farming, I have always found when debit was larger than credit—however showy the result, and plausible the theory—it was a losing game, and I abandoned it as unprofitable husbandry. It convinced me that facts were much more valuable than mere show and theory.

Much has been effected by crossing the fine with the coarse wool sheep: namely, thousands of fine flocks have been ruined by it, within the last half dozen years, and thousands more will be ruined before the delusion passes over. I can respond to Mr. Morrell's sentiment, that were I to consult my individual interest, I would say, "GO AHEAD"—go on crossing your fine flocks with coarse mutton sheep, until you have nearly ruined every fine flock in the country; my interest will thereby be promoted. But believing it to be decidedly wrong, and having witnessed much of the different crosses, and knowing that it is much easier to ruin a fine flock, than to build up one, I cannot remain silent longer, but raise my feeble voice to arrest the evil.

It has been said that we must import the fine descriptions of wool and woolsens, and admit them under a low duty; and doubtless the importing merchants and some farmers, favor the idea; but would this be for the interest of the country? I think not. What, a country like ours, possessing such diversified climate; having many advantages over Europe for growing wool; inhabited by an intelligent, energetic and industrious people, to be dependent on Europe for the better article of wool either in the raw or manufactured state! The idea is really humiliating! But I trust no such state of things will soon occur; and I would say therefore to my brother wool growers, persevere, keep improving your flocks, even if they are already highly improved; they are susceptible of still further improvement, until you bring them to perfection. It has been said to me, "You oppose their cross with a heavy mutton sheep, because it is for your interest." My interest lies the other way, and my reasons therefore, have already been stated. And I emphatically state that I am the owner of a flock of Saxony Merinos, and have not the most distant idea of shifting them. Nor am I inclined to adopt a cross with any coarse breed, however large their carcasses, fat their mutton, "fine?" and heavy their fleeces are recommended to be, and however they may be extolled for other good properties, (and that they possess good properties is undeniable, but these may clearly be traced to high keeping.) Experience and many years observation admonish me, (I mean no disrespect or offence to any one,) to receive such recommendations with great caution—nay, even distrust—and to place but little reliance upon them unless they are accompanied by well authenticated facts. Quackery in agriculture—breeding of domestic animals—as in physics, is on a par with humbugging in politics, and not worth the value of a straw to the farmer, but on the contrary is an injury to him. Have we not had too much of it already?

The cross of coarse upon fine sheep, has been thoroughly tried in Germany, with great exactness—not by guessing—and conducted with intelligence, skill, and at much expense, for a series of years; the result was a failure; and though mutton—indeed meats of all descriptions, bears a much higher price in that country than it does in this, yet the increase of carcass did not compensate the loss of quality of wool and the increased expense of keeping. On a close investigation of the subject, the same results will make themselves manifest here, as wool is the primary and mutton the secondary object of the flockmaster. If the flockmaster of Germany, who receives as much again for his mutton as we do, cannot find his account in crossing with mutton sheep, I would ask what prospect of success is there for us in this country? But this experimenting has had its good effects in Germany, (as I hope it will have here,) it has established the fact that to cross the Saxon Merino with the coarse mutton sheep of England, is incompatible with sound principles. The produce falls as much short of being "equal to the Spanish Merino," as that of a Durham short horn Bull and our best native milkers, "I should guess," of being like the Ayrshire cattle. But instead of that, the Germans have steadily improved their fine



MR. JEWETT'S PAULAR MERINO BUCK.—(Fig. 73.)

MESSRS. EDITORS—The enclosed drawing (fig. 73.) is a very true picture of one of my stock Bucks. It was taken the 13th day of last June, the day on which he was shorn of his fleece, by Dr. Saxe, a portrait painter. It represents him in his fleece at full length, which was seven days short of one year's growth, and weighs fourteen pounds; his wool being of great length, gives him in the profile, a rather short appearance.

It is my intention to exhibit some of my best stock at the Albany Fair in September. Not being a citizen of your state, I cannot enter stock for premiums, but the pleasure of exhibiting may fully remunerate me, especially if I can show as handsome sheep as any one at your State Society.

The wool from these Paular Merinos is not as fine as some other varieties, but I think they should be classed among the fine woolled sheep. At the last State Fair, at Syracuse, I was honored as one of the committee on fine woolled sheep. Immediately the question came up, and there was a difference of opinion, what should be termed fine wool; or whether the coarser merinos should be considered under Class III, "fine woolled?" It strikes me that the whole varieties of merinos, should come un-

der that class, and the premiums should be awarded to the handsomest and most profitable variety—taking into consideration the greatest production of wool and mutton for his keep—the most hardy, best form, and best milkers, which is essential in rearing the lambs.

There is no doubt in my mind, but this Paular variety can withstand our severe winters better than any other that has been introduced among us; their wool being admirably adapted for protection, (not by tariff,) being so very thick, and filled with a natural oil that will repel the severest storms. Their form is also broad and stout; they always look full, if they can get any thing to eat, and are able to shift on very scanty keep.

I put out my bucks the first of December. Stable them about twelve hours each day; give them hay and about one pint of corn, at the time of taking up, and letting out also. This sheep described, is now four years old; has tugged on an average, each year, 123 ewes. We raise about 95 lambs to each hundred ewes. The two years old buck, described in the March No. of the Cultivator, sheared 11 lb. 3 oz. washed wool.

Yours truly, S. W. JEWETT.
Weybridge, Vt., July 12, 1842.

flocks and brought them to a high degree of perfection; and so firmly are they convinced of their superiority over any other breed of sheep, that at this moment, breeders (stock rams) of superior excellence, are selling at higher prices than at any former period. I could give you extracts from letters on this subject confirmatory of this declaration, but must bring my communication to a close. I cannot however do so without expressing my thanks to "Commentator," for the able and impartial manner with which he comments on the contents of the columns of the Cultivator. I sincerely hope he will continue them in future, even if at times he touches a "leader spot" of some of your correspondents. Don't be afraid Mr. Commentator, but give us your views without "fear or favor." It's just the thing we want; good will result from them—they are just after my own heart, and when I read them, old associations are brought to my mind, and I imagine myself in "mein Vaterland."

I am yours, very respectfully,
Hoosick, N. Y. H. D. GROVE.

COMMENTS ON THE JUNE NUMBER OF THE CULTIVATOR.

MESSRS. GAYLORD & TUCKER—I like much your remarks on the "Season and Prospects;" but fear that you expect more from the liberality of mother earth than she can possibly achieve. "The breaking of banks—the repudiation of their debts by several of the states—the bankruptcy of governments—and the half distracted condition of our financiers"—all go to prove, with the most heart sickening conviction, that a moral cancer has eaten into the very vitals of the body politic, for which earth alone, amidst all her richest gifts, has no cure. It is a deadly malady that seems to have left hardly enough disinfected individuals to manage either the public or private concerns of society.

As to the "National Agricultural Society," I apprehend with you, that "the enthusiasm—the esprit du corps," so essential to its beneficent existence, are spirits yet to be evoked from "the vasty deep;" and I know none of its friends sufficiently trumpet-tongued to call them forth. But it is too soon to be faint hearted about the matter. Better times perhaps—so far as better crops can propitiate them—may cause the Society to put on quite a different aspect at its next meeting.

In regard to "Sugar from the Maple," I have never yet seen any of it, out of numerous samples of the best, which was entirely free from a taste of the sap. This circumstance, I think, must in a few years, greatly lessen, if it does not entirely put an end to the making it, as the sugar from corn stalks, which can be made abundantly in every state in the Union, so perfectly resembles the cane sugar, that no palate can detect any difference.

Your review of Dr. Dana's "Muck Manual," has excited in me a strong desire to see it, which I hope soon to do, having taken means to procure a copy. This

work, together with Prof. Johnston's Lectures on Agricultural Chemistry, and Mr. Webster's second edition of Liebig, will surely entice very many of our brethren to study their profession as a science. Mr. Peters says, "we only want a judicious and well digested system;" but we must first get the science necessary to form it, and to prepare the minds of the generality of our brethren for its adoption. We must learn to walk—which many of us are hardly yet doing—before we can run.

UNDER the head, "Large yield of Corn," the crop of 39 barrels per acre, made by Mr. Young, of Jessamine co. Kentucky, greatly exceeds any account yet published of the productiveness of that most excellent grain. Marvelous as the statement really is, it seems to be sufficiently well authenticated to be believed. If so, ought it not forever to put to rest the notion maintained by so many farmers, in the absence too of all proof, that the cutting of corn roots is very injurious to the crop? In the culture of Mr. Young's crop, we are told that "nothing but the plow was used after the harrow." We are further informed, that the corn grew four stalks in a hill, and only three feet each way! Now, if any man can believe it possible to plow corn thus thickly planted—without cutting great numbers of the roots, or, that such cutting could do any appreciable injury to a crop which produced 195 bushels per acre,—he can believe that the moon is made out of green cheese, or any other absurdity whatever.

I perceive that you call the Honey Locust, Robinia viscosa. Other botanists call it Gleditsia triacanthos, which is right—for I do not know? [G. triacanthos is right.]

AMONG the advantages of "sub-soil plowing," you say that it "gradually converts the sterile sub-soil into fertile mold." If you have not yourself seen this effect produced by it, I should doubt whether the mere frequent separation of the particles of any sub-soil, without changing their relative position, could possibly so change their nature. To convert them into "fertile mold," seems to require the addition of some other substances besides "water and air," which other substances are only to be obtained by gradually deepening the plowing, and mixing therewith those particular elements of fertility of which all sub-soils are destitute.

UNDER the head "Indian Corn," you assert that "it will flourish in no other than a rich, warm dry soil." Although it is perfectly true that such a soil suits it best, I have seen many very large crops per acre, made upon land which was neither warm nor dry. In fact, one of the great advantages which Indian corn has over all other cultivated plants, is, that it will grow well in a greater variety of soils than any other. Richness, however, is indispensable in every soil to the production of very large crops; but this being imparted, even to cold, stiff, moist lands, properly drained, such crops may certainly be expected in seasons generally favorable.

Your Georgia correspondent from Hancock county, in

speaking of "hill-side ditches," remarks—"it is matter of some surprise that the agricultural journals of the country should have so long preserved silence upon the subject." Had he ever seen any of the early numbers of that excellent paper, the Farmer's Register, by Mr. Ruffin, of Virginia, he would there have found many communications, strongly recommending these ditches, by farmers who had long tried them, and thus proved their great utility.

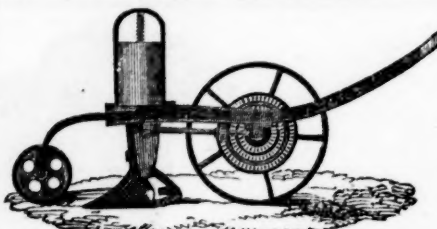
I agree with your correspondent, Mr. John Moxon, of Monroe county, N. Y., in thinking that the late condemnation of the Potatoe oat has been too hastily made. If the circumstance of these oats, when unground or uncooked, passing in an undigested state, through horses' stomachs, be sufficient to condemn them as food for these animals, then all the varieties of this grain, as well as of corn and rye, must be rejected, for all kinds, when thus used, will partially pass through undigested. The potatoe oat is one of the heaviest kinds yet known among us, and must therefore be presumed to contain more nutritive matter—measure for measure, than any lighter variety—until actual analysis proves the contrary. How then can it be less nutritious? With us it has long been cultivated, and by numerous other farmers besides myself, yet I never heard any complaint about them, until I saw Mr. G. B. Smith's publication.

Mr. Peters will excuse my former doubts in regard to the correctness of his assertion, that "we were not 30 years behind England in our Agriculture," I will promise to utter no more, until I have as good an opportunity of comparing the two as he has had. But I must say, that unless he knows of his own personal knowledge, what "England was 30 years ago," his assertion that the great mass of her farmers were then, "not one step more advanced than this country is now," rests upon no better grounds than my doubts. Should Mr. Peters live to "his three score years and ten," as I hope he will, in health and happiness, it is my sincere wish that he may "see our Agriculture fully equal, if not superior" to that of England; but in my humble opinion, equal density of population, and much more aid from our government than we have ever yet received, must both concur to produce even an equality of advancement.

I have read Mr. Lyttleton Physick's communication with close attention, and confess if I understand either his principles or their application, that he has thrown me into a complete quandary,—at least, in regard to Indian corn. This grain I have been cultivating for half a century or more, and began to conceit that I knew a thing or two about it; but if he is right, then am I "clear out of my reckoning." For instance, he commences by promulgating what he calls two laws of nature. The first of them is a law "which keeps the earth covered with vegetable production, and which is necessary for the continuance of vegetable growth." If this is really a law of nature, and not a mere notion of his own imagination, it seems clear that we should either sow our corn broad-cast, in order to "keep the earth covered with vegetable production," or, that as soon as possible, after planting it at any particular distance, we should suffer the grass or weeds to form this necessary covering. The second law is expressed in the following words: "All organic productions being possessed of a set of generant organs for re-producing their kind, cannot be disturbed, when these functions are developed for procreation, without injurious results." Without stopping to inquire whether an organ and a function mean the same thing, as Mr. Physick represents them, I would ask, if the generant organs of the corn plant be the tassel and the silk, what corn grower has ever followed or recommended any practice by which they should be disturbed? So far therefore, as corn growers are concerned, the promulgation of this law—to say the least of it—is somewhat supererogatory.

Mr. Physick's next step,—after laying down these two laws of nature, is, to tell us, in three brief precepts, what should be the practice of farmers. The first is—"to restore fertility to exhausted soils," to which, I presume, all will agree. But the second is one which appears to me to forbid all culture of corn or any thing else. It is in the following words:—"To prevent as much as possible, the escape of gaseous matter from the soil." This precept taken in connection with his first law, (I beg pardon—nature's first law,) would certainly put a stop to all stirring of the earth by the plow, or any other implement. But what renders the matter still more incomprehensible, is, that Mr. Physick, himself, violates both the law and the precept; for he told us, in a former communication, that he actually worked his corn, although not after it had attained one-third of its growth. During this working, however,—if it resembles any other known to corn growers in general—not only must the soil on which it grew, remain without any covering of "vegetable production," on the spaces between the corn, but much gaseous matter must escape from these spaces, for the want of this covering, should his opinion be correct. And if it is, then the opinions of all other writers on agriculture, whom I have ever read, must be utterly wrong; for they recommend deep and frequent tillage for the express purpose of admitting gaseous and other matters into the soil; whereas Mr. Physick's notion seems to be, that all the requisite gaseous matter is already in the soil, and should not be permitted to escape, as he affirms it certainly will, unless the earth be constantly covered with some "vegetable production." But it is proverbially true that doctors will differ. Yet it is equally true, I believe, that where there is only a single doctor of one opinion, and some hundred or thousands against him, the safest plan will be to side with the majority.

COMMENTATOR.



THE YANKEE CORN PLANTER.—(Fig. 74.)

MESSRS. EDITORS.—I send you an engraving (fig. 74 of T. & J. Lewis' Yankee Corn Planter and Seed Sower, for insertion in the Cultivator. I have used it in planting corn and sowing garden seeds, and can say that I think it the most perfect machine of the kind, which I have ever seen. By the use of a set of rotary plates, fitted to the hopper, seeds of all kinds may be deposited in hills or drills, from three inches to six feet apart. The cost of the planter is \$15.

SETH HOLDEN.

Barre, Mass. July, 1842.

The above was accompanied by a certificate, signed by Wm. L. Russell, of Barre, and John J. Pierce, David Long, Jr. and Alfred Wells, of Greenfield, in which they say that they "have used T. & J. Lewis' corn planter and seed sower, exhibited by Seth Holden, to plant a small piece of corn this spring, and that it answered every expectation. It furrowed, dropped and covered, at the rate of 6 or 8 acres per day, and the corn all came up admirably; and they can safely say it is the most perfect machine of its kind they have ever seen."

USE OF MUCK.

EDITORS OF THE CULTIVATOR.—As I promised a short time since, to give you some account of my experience in muck, I now proceed to state that in the winter of '39-'40, I drew from a large mill pond on the Kayadarioses, 1,000 loads, and put on a poor worn out field of 17 acres; soil, sand and gravelly loam; planted to corn the following spring; product 50 bushels to the acre. This field had gone through the genuine skinning process previous to coming into my hands, and grew nothing but sorrel and mullein. The extra product I counted at over 20 bushels per acre. In the fall of '40, I drew from what had been a black ash swail or narrow strip of swamp, 300 loads, and put on 4 acres of almost barren sand; planted to corn in '41, and though the drouth was severe, yet the produce was at least 50 bushels per acre. In the winter of '40-'41, I drew from the pond aforesaid, about 700 loads, and applied to two other fields; planted to corn the following spring, produce equal to anything in the neighborhood. I drew last fall and winter, from the ash swail, about 500 loads and put on 8 acres; now planted with corn and looks first rate. After corn, I have sown oats and seeded down; the seed which before was invariably lost for want of nourishment, has, since the muck application, taken in the most perfect manner. The fields are all renovated, and I consider the experiment a complete triumph, to the great discomfiture of certain wisacres, who prophesied on my commencement, a failure. I have the happiness to state that several of my neighbors, who "seeing, believed," have adopted the practice, and as uniformly successful, when applied to light worn out soils, for which it is, in my estimation, pre-eminent. For heavy loams, or clay, an admixture of lime or yard manure, would be indispensable. The muck of my mill pond is making new accessions at each freshet, and where I first began removing it there has nearly as much more accumulated. I intend making large and continued drafts on these "banks of deposit," finding thus far, the dividends fat, and repudiation and protest unknown in the matter.

Respectfully yours, SETH WHALEN.
Whalen's Store, Saratoga co. N. Y. June 7, 1842.

WOBBURNS vs. BERKSHIRES.

MESSRS. GAYLORD & TUCKER.—Upon reading Doct. Martin's reply to me in the March No. of the Cultivator, the arguments appeared so unfair, and the tone of it was so different from the mild and gentlemanly character I had heard of him, that I at once dismissed the subject from my mind, determined to take no farther notice of it, as this communication of his, I thought, would carry its own best answer and refutation with it. I have so great a repugnance to anything like controversy, that I had rather suffer some injustice at the hands of an adversary, any time, than engage in it, particularly after it has assumed the character that Dr. M. has chosen to give it. But inasmuch as some of my friends are mixed up in the affair, their importunity forces me to reply; which I am determined shall be my last on this subject, and confined to as strictly a negative character as possible. I can only regret now, that I had not known the spirit of this article when in Kentucky, for had I, one thing is certain, I should have never crossed the threshold of Colbyville, under the imputation of some charges made in it.

If I can understand Dr. M.'s language, he misapprehends and misstates my argument about the ship stuffs and corn.

He makes a difference of 250 per cent, between the gain of one of his Woburns in warm and cold winter weather. I can only say that northern hogs are generally fattened during this same cold weather, and gain rapidly, and were I disposed now to pause here and make

an argument, I should add that this only shows the worthlessness of his particular breed, and that the Doctor generally seems equally unfortunate when he comes before the public with his animals. They don't thrive in cold weather, and they die in hot; and every time to be fed on trial, they either have an abscess, get sick, or are foundered, or have to be physicked, or something of the kind. But I am not disposed to dwell on such themes, or class the "fact" of this difference of gain of 250 per cent, with another equally extraordinary "fact," of his Courteney making 30 lbs of flesh, and filling up on 52 lbs. of corn in ten days! which is certainly the most wonderful feeding and gain I ever heard of. Could not pork with such animals, be manufactured from corn for one cent per pound, and prove the most profitable business that the farmer or planter could possibly engage in during these hard times? I only ask for the benefit of those employed in pork raising; for this certainly beats Berkshires, according to a western expression, "by a forty horse power," and almost equals the pretty little Chinese, which I have half thought sometimes, would live upon air.

He finds it convenient to slide over my trial of Berkshires when fed at Columbus, and easily beating his Woburns, which I am confident they will ever do on a fair trial. As to the "poor Berkshire boar, &c. to show off against his fat Woburns," I had both oral and written testimony from several gentlemen in Kentucky, whose candor and veracity I could not impeach, asserting the fact. It was such evidence as would have been received in any court of justice in the land. It is not improbable that they might have seen the Berkshire at some particular time, rather wanting in condition, by the side of some fat Woburns; but whether this be so or not, the words, "malicious and destitute of truth," are pretty strong terms to apply to persons of the respectable standing that I know them to be in the society of Kentucky. They might have been mistaken in their judgment, but as for the other part, I suspect Doct. M. in his cooler moments, will have regretted making use of the expression.

Mr. Fanning, doubtless, called his Berkshires "very superior," in comparison with others in Tennessee, but the reports of their weight proved them small by the side of the larger families of this breed, kept in other parts of the United States.

For the next paragraph of Doctor M., I refer as answer to what I said in Dec. No. of the Cultivator, about the different varieties of Woburns. If he is satisfied with the insinuations of the closing sentence, very well. I leave those who better know me, to judge whether they are correct or not.

Doct. M. asserts "the breeders of Berkshires write big bantering letters, but never come up to the trial." I believe Mr. Curt, and others of Kentucky, have repeatedly challenged him to a contest; and certain it is that Mr. Mahard, of Ohio, concluded if he would stop the boyish trials which he so solemnly paraded before the public in a chapter of "nine facts," (I won't be under oath as to the exact number—pity, though, they had not been a baker's dozen,) equal in importance, probably, and something like the "nine wonders of the world," and place an equal lot of pigs with him in the hands of a disinterested person, to be kept in the common farm way in the west of making pork, for a year or so, and then be driven to market and slaughtered; and the animals found to drive the best, and that had given the most and best pork on the quantity of food consumed, &c. to be declared the victors, he would enter some Berkshires against his Woburn. To this Dr. M. has consented, and I hope next fall to hear of a result worthy to be recorded. I would, most gladly, long ago have challenged the Doctor to a similar trial, but residing at least 800 miles apart, this was out of the question.

Doct. M. asserts that myself and brother have done much to prejudice the public against his white Berkshire boar Albion. I have not the agricultural periodicals to refer to for all our writings, but should be glad to see him point out where Albion is mentioned by either of us, previous to his communication of Dec. last. If apprised of it, the knowledge of his owning such an animal never dwelt upon our memories; we only wrote against white Berkshires in general, believing them to be a spurious breed. If the Doctor can convince the public that they are not, we shall be happy to hear him; we only hope he will be more fortunate than he was in making that famous "Martin" breed of swine, which, to use another western phrase, "were going to whip out all creation," and not have "one drop of black Berkshire blood in them either!" Query. Did any one ever see a pure "black Berkshire," without a white hair in him? Or did Mr. Hawes, their first importer, ever call them "black," to distinguish them from "white." I suppose if we were sent a white-black-Scotch-Galloway, from the other side of the water, with a certificate of pedigree, that the unbelieving American public would be obliged to open its boa constrictor mouth, and swallow him whole, without winking.

As I get on in writing, I find that a little of the high pressure steam with which I started, is, like Bob Acres' courage, "oozing out at my fingers ends," and as I keep a general hospitality account in the Miami Valley, the Doctor has my carte blanche for bacon and eggs, and request that he take a jaunt up there, and stop with friend Hendrickson, over a day and night, or two, or a whole month if he pleases. He will there see Windsor Castle,

* See Western Farmer and Gardener, Kentucky Farmer, and other publications, and particularly an account of Woburns sent Messrs. Affleck & Foster.

a bit of a runt of a Berkshire, only about 3 feet high, and 7 or 8 feet long, (including his tail though in this measure, so as not to be beyond the mark,) which will rather open his eyes to this breed of "humbus" hogs; he will also see Master Kenilworth, and Countess Amy, a pair of 6 months white pigs, I brought out from England last October, in size and fine points, young as they are, almost equal to Windsor; also a runt shoat or two, of the cross of the Berkshire in the great Miami hog, standing 3½ to 4 feet high, and weighing from 900 to 1,200 lbs., of tolerable mellow handling, fine hair, thin skin, good form, neat limbs, and active travelers. Now if I were going to set up for the Bakewell of America, here is a model to start upon, that will beat any Woburn or Martin hog, that it is the good fortune of the Doctor to have ever owned. But all this is only my opinion, and if others think differently, very well, I am glad of it. It takes all sorts of folks to make a world, and all sorts of animals to please such folks, and as this is a free country, I like to see every man have his own way in these matters. Indeed, I sometimes question whether it would not be politic if I wished to make Berkshires in vogue, to go against them, and advocate Woburns upon the principle of the Irishman, who driving a pig along the highway very comfortably one day, was questioned where he was going with him. "Arrah, now, my honey," he says, stepping up and whispering in the enquirer's ear, "just whist and be aisy, will ye—I'm driving him to Galway, but in starting, I let him believe, faith and if he was going to Cork." A. B. A.

Cincinnati, O., March 29, 1842.

FOREST TREES.

It must be a subject of astonishment, to observe the wonderful intermixture and seemingly inseparable connexion between both moral and physical good and evil—to see that the same thing which we at one time dread with abhorrence, at another time, and perhaps under a little different circumstances, becomes a subject of pleasing admiration. We often hear heart rending tales of the gloomy and dismal forest, and yet to a person of good taste, there are no charms in the compass of nature's works, surpassing those of the forest.

The emigrant to an unsettled country, looks upon the trees as so many savage enemies, which he must conquer and exterminate before he can hope for the enjoyment of peace and tranquility. When other emigrants settle around him, and they begin to direct their united efforts towards arriving at a state of civilization, they see nothing in their mind's eye, but cultivated fields, with meadows and pastures, with all the stumps eradicated, and not a single cluster of trees to interrupt the view. If a single patch is left for firewood, it is often sneered at, as it is cheaper to buy wood than to devote the ground to its incumbrance.

But the population increases, perhaps becomes a city. The demand for firewood increases, and timber is wanted in all the various departments of ship and house building, and every patch of forest vanishes before the footsteps of cultivation, like patches of snow before the vernal sunshine, until, as is the case in some countries in Europe, and even in some parts of this country, every piece of timber has to be brought from great distance, if not even imported from a foreign country, and coal dug from the earth for fuel.

In this state of things, sober reflection, which though a slow, is often a correct teacher, shows us by costly lessons what it would have taught before, had it been consulted, that if, instead of wastefully destroying and exterminating the forest trees, they had been used with prudent economy, when necessary, and skillfully managed and preserved when not, they might have contributed largely to pleasure and to profit. The same follies have been extensively committed by other nations; but they have long since discovered their error, and are in many instances setting us examples, worthy of imitation, in retrieving it. If we profit by their example, it is still in season to avoid the error in many parts of our extensive dominions, and where it has been already committed, we can by a judicious course, do much towards making amends in our own days, and avoid entailing on posterity, a vast amount of unnecessary trouble and expense.† The clearing of a country of forest trees, produces no doubt, atmospheric and meteorological changes more or less connected with health; but we choose to leave that part of the subject to those who are professionally the guardians of health, and to speak of it only as it relates to the common comforts and conveniences of life.

The uses of forest trees to which we refer, are shade, for fuel, for timber, and for protection against wind.

Of shade trees, both for timber and ornament, we have indigenous, a greater variety than any other nation. It would be useless to attempt forming a catalogue, but a few may be worthy of particular notice.

As an ornamental tree, the sugar maple—*Acer saccharinum*—for avenues or the streets of towns, stands unrivaled; the wood, valuable in the arts; maple orchards a profitable investment.

* Galway and Cork, are on opposite sides of the island.

† Massachusetts is doing her duty. Among her state premiums, are noticed one for the most extensive forest of any sort of trees suitable for timber, raised from the seed, not less than 1000 trees to the acre, which shall be in the most flourishing condition, and more than five years old in September, 1845, \$30. Another premium of forty dollars for the best plantation of oak or other forest trees, suitable for ship timber, not less than 1000 trees per acre, to be raised from the seed, which shall be in the most thriving condition, and more than three years old in September, 1847.

Yellow Locust—*Robinia pseud acacia*—a most valuable timber, much in demand for mill cogs, ship trunnels, fence posts, etc.

Shell bark Hickory—*Juglans regia*—ranks with the first class of our forest trees, timber of great strength and elasticity, wood as an article of fuel, unsurpassed; produces delicious nuts; the trees worthy of cultivation for their fruit alone; the nuts may be increased to twice their usual size by cultivation.

White Oak—*Quercus alba*—timber in high repute; accommodates itself to almost any soil.

Chestnut—*Castanea*—attains a large size, prolific in valuable sweet nuts, susceptible of great improvement.

White Elm—*Ulmus Americana*—a general favorite, often reaching an altitude of 80 to 100 feet.

Black Larch—*L. pendula*—for timber or picturesque effect, worthy of cultivation. The tree much neglected.

White Ash—*Fraxinus Americana*—the wood in great demand for farm implements, by the wheelwright and carriage maker. The Pines and Firs add much to the beauty of home, and for bleak and exposed situations form a good shelter. The Balm of Gilead Fir—*A. balsamea*—a beautiful evergreen; and the White Pine—*P. Strobus*—the king of its genus; its beautiful stately form will add much to rural embellishment.

A stranger traveling through almost any part of the United States, would think he had met with the strangest anomaly ever presented. He would have heard, no doubt, that the Americans were a people of refined taste, awake to all the beauties, not only of nature, but of poetry and romance; and yet, perhaps, in a day's ride, passing the dwellings of the rich and poor, he would scarcely see a tree connected with a house for beauty or for shade, much less the rich and elegant groups of trees he would have anticipated finding. To such a traveler from almost any other civilized country, to see a decent country house standing like a hay stack in a meadow, the conclusion would be that its inhabitants, whatever fame might have reported of them to the contrary, were as destitute of taste as those animals of the meadow who fed upon the hay stack.

There is nothing in the compass of inanimate nature so interesting as trees. They speak a language to the heart which none but a heart of utter insensibility can fail to understand. They awaken to recollection the memory of scenes long past, not only in the innocent sports of childhood, but often those of deeper interest. It must be noticed by every observer, that even the brute creation feel a veneration for trees. A tree is a house, furniture: it may be made clothing and even bread. "It forms part of almost every implement and every machine by which the genius of man has taught him to lighten the labor of his hand. There is that in a tree, considered as an individual work of the creator, which may well excite our attention, and most amply reward our study."

For fuel, and more especially for timber, economy alone, without the aid of good taste, would, if consulted, be sufficient to plead for the preservation of forest trees.

But when the folly has been committed, and its consequences are beginning to be sensibly felt, what remedy can be applied, if not to afford immediate relief, at least to prevent posterity from suffering by its effects? The still small voice of common sense, confirmed by the examples of several nations of Europe, points to the remedy. The first step is to establish nurseries, where all the most valuable trees could be obtained at moderate prices; a few would avail themselves of their advantages, and the force of example would soon excite the multitude to follow them, and in a few years, those who lived to see our dwellings, which now stand as unornamented as milestones, tastefully surrounded by beautiful trees, and their value doubled in the eye of most purchasers; they would see our public roads lined with extensive rows of valuable trees, and last, though not least, our farm houses would be sheltered in their situations from bleak and destructive winds by belts of the pine and fir trees, and their cattle and sheep would find protection in winter, and places of repose from the sultry summer heat.

MAGNOLIA.

THRESHING MACHINES.

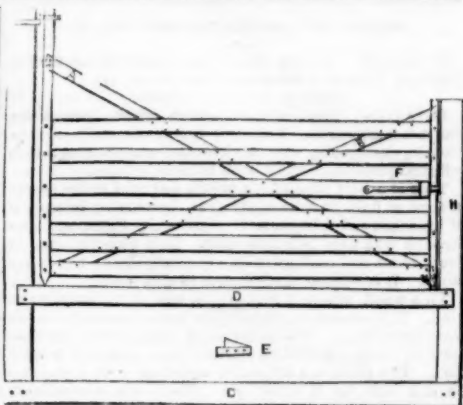
MESSRS. GAYLORD & TUCKER—I have seen in the July No. of the Cultivator, a communication signed Economist, and wish to make a remark on what he says about threshing machines. We have a machine in this county of one or two horse power, called the Endless Chain, made by Mr. Ashman Hall, of Hyde Park, Dutchess co.; with which it is not called a very hard task for two men with one horse to thresh and clean sixty bushels of oats per day, and take care of the straw. The machine is not likely to get out of repair, neither is it a complete kill-horse. Economist's five and six horse machines would not be the thing for this part of the country, (except for job threshing,) for the reason that farmers here feed their straw, and they think it is best when fresh threshed, and as they have generally plenty of time during the winter season, one or two horse endless chains thresh fast enough for their purpose, and require less help.

La Grange, N. Y. July, 1842.

A READER.

INQUIRY.

MR. M. L. COLTON, of Vermont, wishes for information through the Cultivator, in regard to the process of boring or drilling in rocks to the depth of 20 to 30 feet, for the purpose of testing the value of minerals embedded therein—a description of the implements used, accompanied with a drawing if convenient—the manner of doing the work, and the best way to obviate any difficulties which may be met with during the process.



A FARM GATE.—(Fig. 75.)

MESSRS. GAYLORD & TUCKER—I herein take the liberty to send you a pattern of a gate, which is one of my design. The posts should be fourteen inches square, set in the ground at the depth of four feet, one twelve, and the other nine feet four inches long; the end pieces three by four inch scantling, one five feet four inches, and the other eight feet long. The rails and braces are sawed one and one-fourth inch stuff, four inches wide, and thirteen feet two inches in length, making the gate in width thirteen feet. Space between rails, as follows:—commencing at the bottom, 4, 4, 6, 8 and 10 inches. The brace A, is let in dove-tail form, and the brace opposite side of the gate, B, is let in square, as described in the figure, and nailed; also nailed across the rails to strengthen the gate. The sill D, and the bed piece C, are composed of durable timber; C, put in at the bottom with a mortice, fourteen by three inches, with a correspondent tenon in posts to enter, and pinned, which I think will prevent being raised by the frost, (if incorrect, some one will please to rectify;) and D, laid just at the surface of the ground, and morticed into posts to prevent the settling of the gate. It is hung principally by its bottom set into the sill D, with a ferule on the end piece, and one to set it into the socket—to facilitate in opening and shutting—and at the top fastened with a hook and eye; the hook with four holes punched in the end, projecting through the post, one inch and a half a part, with a good wedge to drive, so as to raise the gate if desired, &c. The latch is composed of iron, as shown at E, to be put on with three screws at H, upon the inside of said post, cut in one inch. Latch at F, fastened at the fourth rail from bottom, by a screw and staple passing through the end piece near the middle, with a hole large enough to pass over the latch E.

Yours, &c.

E. H. NORTHRUP.

Shoreham, Vt., April 1, 1842.

MESSRS. GAYLORD & TUCKER—I have not had time to peruse your late numbers of "The Cultivator," until within the last few days, having been much engaged in the practical part of agriculture.

I think it is very important that writers for this valuable paper should confine themselves to well founded facts, and not make assertions that have no foundation; it not only leads the weaker part of the community into error, expense, disappointment, and deprives them of enterprize, but gives them a total dislike to the author; while substantial facts produce a lasting friendly feeling, and command respect and admiration. Writers are too apt to show their learning, by introducing figurative language for display, without producing the desired effect; the plainer statements are made, the more substantial they appear, and are more readily understood; therefore, come on with facts, and let far-fetched terms be dispensed with.

I have read Mr. Morrell's Salmagundi with pleasure; but there are some sentences that do not meet my views, to which I shall reply when at leisure. No. 4 shows plainly he is a one-sided writer on cattle; and decidedly a short horn man. I ask Mr. Morrell what indications his judgment rested upon when he issued the remark, that our Herefords "showed good keeping?" I would defy him to move any of their old coats, nor did it begin to leave them, until they had been to grass a fortnight; this can be proved by the neighbors, and is positive proof that grass was their richest food, and no cattle can possibly have thriven faster since they left their stalls. This I say as a just vindication against prejudice.

I must say to Mr. Randall that Mr. Rust's ox is decidedly descended from a Hereford, although it seems to be his wish to deprive him of it, by saying "there is no good reason to suppose that this noble animal possesses a drop of any foreign blood, other than that introduced by the first settlers of the country." My opinion is that the first settlers brought with them the Irish breed of cattle; and if Mr. R. will take a "tour" through Ireland, he will find exactly the same stamp as the common cattle of this country, and he may select the "best" if he chooses, and breed from them until he is the age of man, and my word for it, he will never breed a beast that a good judge would condescend to put his hand upon.

A breeder of cattle ought to be able to distinguish one breed from another, and if he cannot do that, he should not attempt to decide on their blood.

WM. H. SOTHAM.

Albany, July 18th, 1842.

WEEDS OF AGRICULTURE.—No. II.

6. HARIFF. Known also by the names of *Goose tongue*, *Cleavers*, *Clidiers*, *Catch weed*, *Goose grass*, &c.

GALIUM APARINE.—LINN.

BOTANICAL DESCRIPTION.—Stem weak, branching, aculeate backwards. Leaves 6-8 in a whorl, linear lanceolate, mucronate, with the keel and margin rough with reflexed prickles. Fruit with hooked bristles.

This is a very scrambling weed, and runs to the length of four or five, or even eight feet, increasing in weight of branches and foliage, as it obtains the light, and gets through whatever it grows with. It is usually found in deep, loose and mellow soils, especially those which are moist. It is seldom troublesome in clay soils.

This weed, where it abounds, is one of the very worst kind. It increases excessively on loose deep soils, when once introduced. The flowers are white, small, and numerous, being situated on axillary and terminal peduncles. The seeds are didymous, roundish, with a channel on one side, as if rolled up. They are exceedingly rough, and adhere to whatever woollen stuff they touch, so as not to be easily dislodged. They are also heavy enough to resist dressing, and large enough to escape the screen. They are, moreover, the toughest of all seeds, and hence millers may well object to them, for if they be numerous, "they will almost make the stones whistle." In samples of oats they are abominable; horses can scarcely grind them.

The best mode of destroying this weed, and indeed all annuals is, to encourage the seeds to vegetate and then to kill them with the plow. It may, however, be useful to some, to show by what rotation it may be effectually subdued. Suppose a quantity of this weed to grow with a crop of oats; after harvest, as rains come on, the scattered weeds will vegetate on the surface. This will be much encouraged by getting off the stubble and harrowing; and when the opportunity occurs, the land should be plowed a shallow tith and again harrowed. Much surface rubbish may now be raked and carried off, and the land may then lie till spring. After spring seeding, plow this piece a seed furrow, pitch and harrow it: clean it from twitch and roots, and let it lie to be green over with annuals. It may then be manured, and the manure plowed under. After a little harrowing and hand-picking the twitch, the land may lie till you choose to sow it; the best crop is rape, if the land be light, which should be sown rather late, and perfectly well hoed and cleaned. The crop may be stocked with sheep in February, but it should not be eaten too close down. The surface, as the spring advances, is to be kept clean with hoes, and the rape is to stand to be threshed; after which the surface must be discharged of the stalks by pulling, and the land may be sown with wheat at once plowing. This crop may be cleaned with a little exertion, by weeding; and in the spring the land should be sowed with the best mixture of grass seeds that can be procured. Though light land does not suit wheat, especially as to quality, yet depth and penetrability of subsoil will generally give you produce enough. It grows too tall and flaggy, and is easily brought down with wind and rain; but if it be clean it will make good seed for other soils; and you can by no other means obtain so much profit, without deteriorating the soil, by any other rotation of the crops.

The same views might be beneficially extended, as they apply to the cultivation of dry black-mould land, of deep texture, having some dry peat remaining and a clay bottom, too far below to be plowed up, except in spots and patches. This land will by no means lie profitably in permanent grass, neither can any four fields of it be rendered convertible, because the continuance of plowing pulverises the soil to dust, and the encroachment of the couch requires much exertion to master it.

The usual rotation in the drier part of fen lands, is either from paring or burning the grass surface for rape, eaten off with sheep, to oats the second year, and wheat the third year; or Heligoland beans after rape and wheat the third year. If with the wheat, the land were returned to grass, no fault ought to be found; but the cultivator will not part with the arable system so soon. After wheat he goes to fallow, and here begin the powder and the weeds. Fourth year fallow, rape; oats the fifth year, and then wheat and grass seeds. No management on earth can subdue weeds on light deep soils upon such a plan. Those which naturally prevail in the soil, and such as may be sown with the crops, are perfectly triumphant. Horse hoeing is here impracticable, the soil being so light; hand hoeing and weeding have been followed, to the expense of five or six and twenty shillings an acre, without being able to clean the crop. The mode adopted is to get a thick crop of corn if possible, and when the crop is a foot high or more, to put weeders in it, who break off and crop and batter down the biggest of the weeds, and leave the others to contend with the crop as nature and the season may rule. As to harrow, where it abounds, they sometimes drag the crop (if wheat) with a horse drag. Sometimes the weeders make themselves short rakes, and scratch and tear the crop in pieces, as well as the weeds. These methods never did much good; for that which pulls the corn, away, opens the path for weeds to grow again. Where patches of this weed grow through a thick crop of wheat in the spring, nothing better can be done than to crop off the superior shoots within the wheat leaves, and leave the wheat crop as entire as possible, to smother the plants below.

But after a great deal of experience, which I have had in the cultivation of dry-bottomed and deep black mould

lands, I recommend short rotations of cropping between longer intervals of grass lay. Nothing else can subdue the weeds, which are so numerous and rampant in such soils.

7. BLACK BINDWEED. *Climbing Buckwheat*. Also called in some places *Bearbind*, or simply *Bindweed*.

POLYGONUM CONVULVULUS.—LINN.

BOTANICAL DESCRIPTION.—Stem long, climbing, angular, somewhat rough. Leaves petioled, oblong, hastate-cordate, with the lobes spreading and acute. Flowers in lax spikes, oelandrous. Styles three-cleft. Segments of the perianth bluntly keeled.

This annual is found in cultivated grounds in various parts of the United States. It is often a companion to the preceding: in the same soils in which it has been introduced by sowing, it runs to as great a length, getting above the corn that is laid and covering the crop by patches. The flowers, which appear in various districts from June to September, are white or reddish, and are arranged in terminal interrupted spikes or racemes. The seeds are brown, triangular, hard and smooth, and are quite as nutritious as buckwheat. They are heavy and large enough to resist dressing, and in wheat samples are objected to for the same reason as those of cockle. In oats they are really no objection to the buyer, horses being very fond of them. The farmer, however, has good reason to stand in fear of this weed, on account of the destruction which it brings to his crops, and the injury done to the samples.

8. SHEPHERD'S NEEDLE. This is also known in England by the names of *Venus' comb*, *Needle chorvil*, *Beggar's needle*, and *Crow needles*.

SCANDIX PECTEN.—LINN.

BOTANICAL DESCRIPTION. Fruit nearly smooth, with a bristly edged beak. Umbels simple, solitary or in pairs. Bractes jagged. Petals inflexed at the point.

This is a bushy and troublesome annual, especially in barley crops. It flowers from June to September. The seeds are long and bent, of a rough texture and brown color. They are seldom seen in samples of wheat, being a little short of growth; but barley, being mown, must necessarily be infested if they be in the crop, for no dressing can separate them.

This weed has not been introduced to any extent into the United States.

QUEEN BEES—LICE IN POULTRY HOUSES.

FRIENDS GAYLORD & TUCKER.—On looking over the *Cultivator* for this month, I observe, under the head "Queen Bees," that Henry Palmer denies the existence of a queen bee. Remembering a circumstance which occasioned me to have a different opinion, I will relate it for the information of inquirers.

I had two swarms of about equal age and strength; one of them swarmed twice; the other had the appearance of being ready to swarm when the first swarm came out as above; and although the bees continued to be outside for two or three weeks, yet no swarm came off. One morning as I was looking at the two swarms, which stood near each other on the same stand, admiring what could be the cause of the difference, out came the queen bee (according to the description I had read of them,) from the hive that had swarmed twice; and having no wish for that to swarm again, and apprehending there was a deficiency of queens in the other hive, I caught her, and placed her at the door of the said hive, where she run in, and in about an hour, a very large swarm came off, which was hived and did well.

I also noticed in the same paper, *sassafras* wood and leaves, recommended to prevent poultry from being infested with what is called hen lice, which I approve and use; but a more effectual method of killing these insects, is to burn the hen house, I had almost said; I proceed as follows: I take a bunch of hay or straw, tie it to a pole of suitable length to reach the highest part of the hen house; this I set fire to, and while blazing I move it gently around the walls, roof, and roosting places, which I repeat about three times during the warm season; at first I used the precaution to keep a pail of water by me, but I now find it unnecessary, as it is done effectually without any risk. I speak from twelve years experience, and remain your friend.

ROBT SINCLAIR.

Clairmont Nursery, near Baltimore, July 11, 1842.

ST. MOOR FARM.

EDITORS OF THE CULTIVATOR.—Distinction is natural to the pride of man, and it should be the peculiar care of the tillers of the soil, to allow the well earned claim to it of every member of this noble employment, who has improved the art, added to the mass of information on the subject, or set an example worthy the imitation of a neighborhood, a county, a state, or a nation.

The extraordinary results of judicious management on the farm, designated by the name at the head of this article, in a brief period, well deserves to be recorded in the pages of the "Cultivator," the chronicle of the Agriculturist. This farm contains about 1,400 acres, and is the patrimony of Philip St. Geo. Ambler, Esq. the present proprietor. When he took possession of it, it consisted of little else than abrupt red hills, abounding in gullies, many of them very formidable in extent. These hills were separated, with three or four exceptions, by narrow valleys of great original fertility to be sure, but which for many consecutive years had been the receptacle of the earth washed from the adjacent hills, which had buried the generous soil far too deep for the touch of the plow share. Situated in a tobacco country, the land had been

cleared wherever the soil was found adapted to this plant, and much injury had been thereby done to the convenience and appearance of the fields. The buildings were all in the most dilapidated condition—more than a third of the open land had been turned out—the stock of all kinds had deteriorated, and the crops were barely equal to the support of the farm. This state of things continued until 1834, when Mr. Ambler employed Mr. James F. Satterwhite, of Goochland co. Va., to whom he confided the exclusive management. Mr. Satterwhite introduced the five shift system—three horse plows—and a liberal use of clover seed and plaster. As soon as circumstances permitted, he commenced making manure, and has ever since been applying this indispensable, in immense quantities. This system, with the exercise of extraordinary judgment in the management and application of the labor on which he relied, indefatigable perseverance, untiring zeal, and unremitting attention, have in eight years rendered this farm one of the most productive highland farms in Virginia.

In 1834, the crop of wheat including seed, amounted to six hundred bushels. In 1839, the crop, exclusive of seed, (upwards of 300 bush.) amounted to two thousand six hundred bushels; this latter quantity was actually delivered in the mill. Every part of the farm, not in cultivation, is now covered with luxuriant grasses. The crops of tobacco, corn, and oats, have increased in proportion. The stock of all kinds, (especially the cattle, sheep, and hogs,) has improved as rapidly as the land; and a very handsome brick dwelling house has been erected during Mr. Ambler's recent tour through Europe, which commenced in August, 1839, and terminated in September, 1841.

Whatever may be thought of these results, in sections of our country where agriculture is more advanced, they are admitted to be unequalled in this vicinity, and therefore are thought worthy of record in your valuable periodical, by a farmer in the neighborhood, who is also your

Lynchburg, Va. April 20, 1842.

SUBSCRIBER.

PREPARING FOOD FOR SWINE, &c.

Among the various modes of preparing food for fattening swine, I do not recollect seeing in "The Cultivator," the favorite plan of the writer of this note, viz: That of having all kinds of meal from grain intended for fattening hogs, instead of boiling or steaming, put into water in vats or tubs of sizes in proportion to the number fattening, and there remain until fermentation takes place, before feeding out to the swine—not giving any meal to hogs or pigs, until this acid fermentation is observable. In this state I have never known swine to become cloyed by overeating, however freely fed. On farms where cheese is made, I have found, as I apprehend, not only a safety but profit in putting the new whey into the vat where this process was going on. The consistency of this preparation, I think, should not exceed that of good cream. In this way I have seen swine fatten faster than from meal given in any other form, and seen less marks of food having passed the animal undigested, which is often visible when food of a farinaceous kind is freely given, unprepared; and I may add, according to my experience, (though on a very limited scale,) the most profitable.

The Yankees of New-England have long since discovered, that the point of an old scythe, rendered unfit for mowing grass, by long usage, or broken by accident, sixteen or eighteen inches long, attached to a handle of wood, at right angles, or somewhat obtuse, serves all the purposes for cutting up corn, that the more formidable machine proposed by our Virginia farmer would—and almost without expense. A FARMER OF R. I.

CULTURE OF POTATOES.

MESSRS. GAYLORD & TUCKER.—Gen. Beaton's experiments, (page 109 current vol. of the *Cultivator*), in planting potatoes, show decisively that potatoes planted six inches deep yield the best; how can that be done unless the ground is plowed six or eight inches deep, as I stated in my article to you some time ago should be done? Your correspondent L. B. L., under the head of *Philocommentator*, seems greatly surprised at my plowing the enormous depth of six or eight inches. From my practice, I am satisfied that manure should be mixed well with the soil, to the depth of six or eight inches, for potatoes; but for winter grain it should be left near the surface, and a less quantity will answer; but where I am located, winter grain is not profitable, wheat is an uncertain crop, and rye is not worth raising. The average value of an acre of good potatoes here, for several years past, has been eighty dollars; they are raised for the New-York market. I sold my crop last fall for \$1.12½ the barrel, (the barrels returned,) that being forty cents the bushel. I raise the mercers, the rohans will not sell in the New-York market, and the kidneys will not grow here. I plant one potatoe in a hill, about the size of a hen's egg; 500 will make a bushel, if they are planted two and a half feet apart in squares; that will make about 7,000 hills to the acre, of course it will take 14 bushels to plant an acre; too much seed produces small potatoes, the marketable size is more profitable than a greater number of bushels of small ones, as we do not raise them for feeding cattle or hogs; we feed out the small ones only, and the fewer we have of them the better. Different soils and locations require different management, and we must not expect one system of farming will answer every where; our soil and location must be considered before we commence the operations of agriculture.

Yours, &c.

TYLER FOUNTAIN.

The Garden and the Orchard.



GALVANIC PLANT PROTECTOR.—(Fig. 76.)

EDITORS OF THE CULTIVATOR.—The London Mechanic's Magazine contains an ingenious application of Galvanism, for the purpose of preventing the attacks of mollusca on dahlias, and other delicate plants. I send you the above drawing of it, in hopes that it may prove useful to that portion of your readers who are florists, and that some similar arrangement may be devised for preventing the ascent of worms and insects on our fruit trees. The original inventor of this apparatus has tested its utility during 12 months, and not a plant thus protected was injured; while those which were unprotected, suffered severely. The Protector is a conical ring of zinc, 4 inches deep, adjusted to the interior of the flower pot, the top end of which, a, b, is flanged off about half an inch, and cut into vanlyked points; immediately under the flange, and on the outside of the ring of zinc, a ring of copper, c, d, is neatly fitted.

In order to use the protector, press the inferior edge of the zinc ring, c, d, into the earth, until the inferior edge of the copper ring, x, y, is about 1½ inches above the surface of the soil. The mollusca may crawl up the zinc with impunity; but on coming in contact with the copper, they receive a shock which causes them to fall back to the ground. If the larger of this tribe attempt to stretch across and above the copper belt, avoiding contact, they would be incapable of holding by the points. The protector acts in wet or dry weather, and is always in action. There is nothing said in the memoir, respecting the influence of the instrument on the growth of the plants under its protection, but my impression is that the constant electric action must stimulate the growth of the plant, and increase the size and beauty of its flowers.

N. N. D.

BLACK RUST ON PLUM TREES.

In the June number of the Cultivator, a writer complains of what he calls the Black Rust in Plum Trees, and asks what will cure it. This plague, which is also fatal to several species of cherry trees, came from the southwest, and has traveled to the northeast, and within the memory of the writer, was unknown in New-Jersey.

It is evidently caused by an insect in the fly state, and these traveling only in fair weather, are carried by the prevailing winds in summer, in the direction mentioned. The evil was known in New-Jersey long before it reached New-York. The limb of the tree is stung by the insect, which deposits its egg in the tender wood. An excrescence is formed around the wound in which a worm is hatched, and after a time, eats its way out of the confinement, and no doubt drops on the ground, which it enters, and keeps secured until the next season, when assuming the fly state it renews its operations of laying its eggs. If not assailed until the excrescence assumes the black color, it is too late, for the worm has escaped from confinement and is out of danger from an attack upon its nest. The trees must be watched, and as soon as the limb swells, it must be cut off and burnt. This plan, which the writer has followed, if it does not entirely remedy the evil, will lessen it, so that little damage will ensue; but it is obvious, that as long as my neighbors neglect the means to destroy the insect in the bud, the fly from their trees will reach mine, and lay eggs in them to my damage.

That the insect remains all winter in the same place where hatched, is very evident from the fact that trees partially injured one season, if neglected are much worse the next year. How far paving around trees or hardening the ground to prevent the worm from penetrating to find a winter's residence, and keeping small chickens in the garden to eat them up, may answer, I cannot say. Digging the ground deep just before winter gets in, may destroy this insect as it does many others, but the destruction of the egg is better than either. By this method, the writer has kept his plum trees almost entirely free from the pest in question, but whenever it has been neglected, the trees are sure to suffer.

A GARDEN HAND PLOW.—(Fig. 77.)

MESSRS. GAYLORD & TUCKER.—From reading your paper, I discovered much matter, which is calculated to be highly useful to the regular farmer, and also many plans for fine gardens: but as the improved Scotch plow, or any other improved plow (drawn by a span of horses,) would make rather ugly tracks in such fair premises, and as the hoe is rather a tedious and stooping employment, I will endeavor to introduce a new implement, which I have had constructed, and term a *Garden hand Plow*. First, the socket of the plow is 12 inches long, and two inches in diameter at the muzzle, narrowed down quite tapering, as in the drawing above; then 18 inches more must be gently curved—12 inches of this flattened, and a wing 6½ inches wide at the top, and narrowed down to one inch at the point. This wing can be set on either side, according to the hand which a person uses foremost in working. So much for the iron work. Now a staff to fit the socket: have this about 8 feet long, and towards the extremity of the staff, have two small handles attached, at convenient distances, for holding; then buckle a leather strap between the handles, and in working, pass the head and arm through as in stinging a horn or flask. To work this, move back sideways, and draw it after you. I can do good work with this plow; and all that I will ask of any one who may try this description of tool, is that they will publish in your paper a better plan if they have one, as I am desirous of keeping pace with the improvements of the age.

A SUBSCRIBER.

Wetumpka, Alabama, June 7th, 1842.

THE FRUIT GARDEN.—BY DAVID THOMAS.

I have derived much pleasure and instruction from the perusal of the essay on the "Fruit Garden," by David Thomas, of Cayuga Co., published in the vol. of Transactions of the State Ag. Society; indeed, so highly have I appreciated it, and believing that others will also, that you must permit me to recommend a republication of the whole, or parts of it, when convenient, in the Cultivator; for it is a rarity to meet with so much valuable information, so perspicuously conveyed, and so well condensed. The value of the essay is greatly enhanced, from the fact that probably few men in our country, are in possession of a larger amount of scientific, and none of more correct practical knowledge, applicable to this subject; and consequently, the utmost confidence may be placed in what he has expressed and recommended.

He has very properly recommended "lime white wash" for fruit trees. My own experience fully establishes the benefits derived from its use; he making, however, a qualified exception in regard to the cherry tree, by saying "that the experiment should be cautiously conducted." In what respect he means, we are left in doubt; but I have made no distinction, and have not been able to perceive any injury to follow, notwithstanding the wash has been applied to several varieties of the cherry, and prepared alike with that used for other trees. Nevertheless, since David Thomas has said, be cautious, it is well enough to be so, for he has had more than thirty years experience as a professed fruit culturist. If there are any of your readers who are skeptical of the benefit of white washing fruit trees, their doubts would be removed if they could see my own, with the polished smoothness of bark, and healthful appearance they present; indeed, I purposely left several trees unwashed this season, in order to convince my neighbors, and others of its virtues. By the way, when lime cannot be readily obtained, lye of ashes is a good substitute either destroying the moss which attaches more or less to all our fruit trees; but perhaps the latter is not so effectual in eradicating that variety of the aphid, called the tree louse. As has been the case for five years past, my most valuable plums this season, have been destroyed by the *curculio*, and I am determined to resort to the remedy another season, proposed by David Thomas, as follows: "Finding many of our trees nearly unproductive, we determined in the early part of last summer to call these depredators to account. Accordingly, we followed the same plan that we recommended some years ago in the New-York Farmer; spread sheets under the trees, and jarred the branches violently. The little marauders taken by surprise, fell down by dozens; and the contrast of colors, enabled us to detect them at a glance. We chose the cool of the morning for this purpose, when they were slightly benumbed; and persevered till we had destroyed nearly 1700. In consequence, all the trees that we visited, bore fruit in abundance; and to prove that our labor was rewarded, a tree that was overlooked bore three apricots, while another of less size bore a half a bushel." I could go on and fill my sheet with information as valuable to the farmer, who prizes his fruit, as the above.

I must take an exception, however, to one of friend Thomas' recommendations, which is not in keeping with his kind and benevolent nature, for which he is so much distinguished, namely: destroying birds which pilfer our fruit. He says, "treat them according to their doings. Make pies of the robins, orioles, and cedar birds—some chicken is worth a dozen of them for business; but save and protect the blue birds, warblers and sparrows." Now, I am not distinguished for a "womanish" feelings, but I declare I have not the heart to kill a bird of any sort; no, not even crows, for they are useful to the farmer, and can easily be prevented or deterred from doing any mischief to our corn fields, by suspending twine

at intervals along and within the enclosure. When seeing the cedar bird nibbling at the cherries, often have I said to myself there is enough for us both; and with Uncle Toby, when he let go the fly, there is, also, "room in the world for us both." No, spare the birds, "nature's songsters," and the farmer's best friends.

But friend Thomas lashes another kind of biped pilferers, in good earnest, and most justly. Hear him: "Unfortunately for the moral character of our population, fruit is too generally considered lawful plunder. The culturist is allowed to have a full and exclusive right to his corn and potatoes,—it would be infamy to steal them,—but no exclusive right to his fruit, if they can get it. Thousands of honorable exceptions to this charge, indeed may be found, but it is not the less true that a great part of our population is tainted, and deserves to be branded with reproach.

"The native fruit of a thinly populated country, growing without culture, and free for all, has doubtless had its share in producing this laxity of morals. 'I would sooner have a hundred Irishmen around me than one Yankee,' was the declaration of a sufferer, whose fruit had been plundered near the line of the Erie canal, when that great work was in progress. But Europeans are generally more exemplary on this point than Americans. Shame on us! When Professor Stowe was in Prussia, where the roads are lined with fruit trees by order of the government, he observed a wisp of straw, attached to particular trees, to protect the fruit: a sufficient guard; but he suggested to the coachman that in America, it might only prove an invitation to plunder. 'Have you no schools?' was the significant reply. Yes, we have schools; but how many where the child is taught to respect his neighbor's property? Too often he acquires literature and vice at the same time. The state of New-York is famous for her schools and her prisons: the latter to supply the defects of the former system, which they do however, very imperfectly. Better let the mandate go forth, that the *morality of the Bible* shall be one of the chief objects of instruction. Teach her children to be honest, and then with science and literature, a foundation for true greatness and prosperity would be laid."

Now that is what I call capital, and well told, too.

L. A. MORRELL.

P. S. "Stockport," a town in Columbia Co., and the signature of a very clever correspondent in the last Cultivator, for whose several compliments, I duly appreciate and thank him. He has quite misapprehended me in several particulars, which in my next will be duly explained; want of time forbidding the gratification of doing so at present.

Lansing, Tompkins Co.

THE PEACH TREE.

Your anonymous correspondent from "The Plains," in Virginia, recommends a pile of stones, 12 or 15 inches high, around peach trees, as an effectual protection against the worm which is so destructive to them. Every such statement should be corroborated by the name of the writer,—especially if it has any thing extraordinary in it. No hoax will then be suspected, and there will be a greater probability of his recommendation being tried. But in this case, even if the prescription be a good one, there are very extensive tracts of country in the Carolinas, Virginia, and probably in other States, wherein it would be entirely useless; for you might travel a long days journey through them without finding even a single stone as big as a hazel nut.

Some two years ago, I myself was tempted to try one of those anonymous recommendations. It asserted that any fruit tree might be made to hold its fruit by paving around it with brick. Having an obstinate prune tree which always dropped its fruit, I forthwith made a brick pavement extending upwards of 3 feet in every direction, from the stem. This has now been standing for two years, but de il a bit would the tree do any better; the prunes have all dropped as they did before.

COMMENTATOR.

CHERRIES—PEARS.

MESSRS. EDITORS.—I propose going into the nursery business extensively, and I wish to know whether the English or improved cherries can be worked upon stocks of the common varieties, as I have been informed they will not succeed unless worked upon the Mazzard or English cherry, and these stocks are more difficult to procure. How will pears do worked upon apples?

F. K. PHENIX.

Delavan, Walworth Co. Wisconsin, 1842.

McIntosh in his late splendid work on the Orchard and Fruit Garden, says in his introduction to the culture of the cherry, that "the best and most permanent stocks are those originated from stones of the wild black or red cherry. The stones of the cultivated kinds should not be used for this purpose. The Morello is often chosen as a stock when dwarf trees are desirable; it is also said to render the tree more productive." The Heart cherries, Mazzards, &c. have a more vigorous growth than the Dukes and Morillos, to which the common varieties belong; and as the improved English cherries mostly belong to the first class, if worked on the latter, an unsightly bulge will be formed at the point of union. That when so worked, they will grow, and bear well, we know by experience, and if grafted low in the ground, the deformity does not appear. The same remarks are applicable to the pear. If worked on the apple, the graft grows more rapidly than the stock, and though it bears

more quickly than if worked on a pear stock, it will be much shorter lived. In all propagation of this kind, the stock should be worked as low as possible, and some have preferred grafting directly upon the root. Pears succeed best on free or wild pear stocks, producing durable trees, and fruit of superior quality. They will also succeed on stocks of the crab apple, quince, or thorn.

ROSE BUGS ON THE GRAPE.

MESSEURS. EDITORS—I have on my farm about 1000 grape vines of different kinds, which were set out last year by the gentleman who then owned the place. Though still so small, (from having been cut down,) as to require nothing more than poles the present year, they promised to yield abundantly until the rose-bugs made their appearance, when I discovered that they attacked them so greedily, that unless I found some means of stopping them, my hopes of a crop would be destroyed. At first I tried going through and picking them off every morning, but soon found this to avail little against the myriads of enemies. When I received the June number of the Cultivator, I found in it the notice of the discovery that whale oil soap was an effectual remedy against these disgusting insects. I accordingly procured a jar of it, and a syringe, but did not find it to answer the purpose, however strong it was mixed. A few of the insects on which I tried it died, but most of them recovered, and the moment the leaves were dry, they were again covered with bugs. However, I did not regret procuring the soap, for I found it perfectly effectual in destroying caterpillars, red spiders and other insects. The rose-bugs have now mostly disappeared, and at least three-fourths of my grapes have disappeared also. Now I expect my vines to be large enough to yield abundantly next year, and I am anxious to learn some means of saving them. If I were to plant roses about my grapes, would they prove sufficiently attractive to draw the bugs from the grapes? I have thought this probable, from the fact that one of my neighbors has a grape-vine in his yard, which has abundance of roses near it, and his grapes have been untouched. If you can give me any information on the subject, you will greatly oblige your constant reader.

H. W. S. C.

Burlington, N. J., June 24, 1842.

We are unable to answer the request of our friend satisfactorily; and hope some of our subscribers acquainted with the culture of this fruit, will favor us with the results of their experience in the matter. The rose is doubtless the favorite food of the bug alluded to, and it was for the purpose of destroying him on this shrub, that Mr. Haggerston invented the remedy of whale oil soap, and which has been entirely successful in multitudes of instances. Is it not possible that a strong decoction of Hellebore would be as fatal to these insects as it is known to be to most worms and caterpillars? But we leave the subject to our correspondents.

RHUBARB.

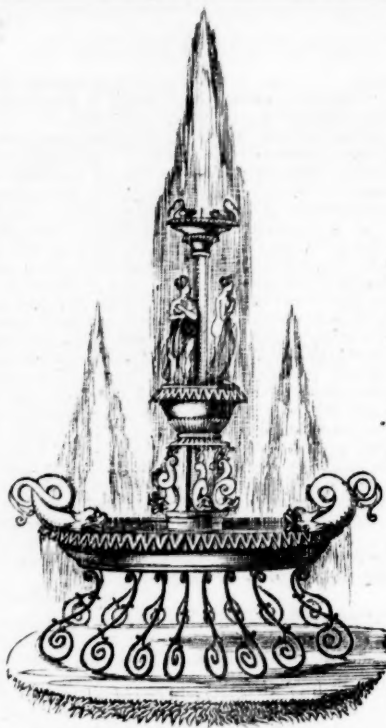
MESSEURS. EDITORS—I see published in the April number of the Cultivator for the present year, an account of the proceeds of the "Retreat Garden." The article that attracted my attention most was that of "Rhubarb, 300 lbs." Is it *Rheum palmatum* that is spoken of? Was it raised at the garden for medicinal purposes, or for the table? How is it cultivated and manufactured for medicinal use, and how for the table? How long is it in coming to perfection, and is it reared from the seed or the root?

A READER OF THE CULTIVATOR.

Croleys, Arkansas, 1842.

The Rhubarb mentioned in the article alluded to by our correspondent, we presume was the *Rheum raphaniticum*, and not the *Rheum palmatum*; and that it was raised not for medicinal but table use. For a long time it was supposed there was but one kind of Rhubarb, and all are now used for medicinal purposes, but the *Palmatum* is rather the most efficacious. The Rhubarb plants of all the varieties, may be grown from the seeds or the roots. A root of four years old, will afford twenty or thirty eyes, each one of which will produce a plant, half an inch of the old root being sufficient to ensure germination. In Tartary and China, where *Rheum palmatum* is extensively grown for medicine, the plants are allowed to grow until the fourth year, when the roots are taken up, cleaned, sliced across, and the pieces laid on long tables, where they are frequently turned for a few days. They are then hung on cords, so as not to touch each other, and dried in the shade. When fit for market they have lost about seven-eighths of their weight. If cultivated for the table the stems (which are the parts wanted,) should not be cut away until the second or third year, or until offsets have begun to form, and never too closely, for though the plant may live, the vigor will be lost. There are at the present time, a great variety of hybrids, originated from the several kinds of *Rheum*, which for culinary purposes, are vastly superior to the old kinds. We have one of these hybrid varieties, grown from seeds sown two years since, which has the present season thrown out stems of more than twelve inches in length, and four and three-quarter inches in circumference, and these large stems in several instances have been broken down by the vast leaves they were obliged to support.

ROSS' PHENIX STRAWBERRY.—A notice of this new and valuable seedling strawberry, with an engraving, will appear in the next number of the Cultivator.



CAST IRON FOUNTAIN.—(Fig. 78.)

Having been furnished with an engraving of the Fountain (fig. 78,) for which a gold medal was awarded to Mr. D. L. Farnham, of New-York, at the last Fair of the American Institute, we copy the description of it from the report of the committee on Garden Ornaments, of which ALEX. WALSH, Esq. of Lansingburgh, was chairman:—"This superb article might truly be said to form the climax of garden ornaments. It was got up by Mr. D. L. Farnham, of New-York, in a style which would do honor to any country, and displaying a taste and skill which richly entitles them to patronage. It consists of an extensive and lovely basin of clear water, in which gold fish were sporting over a bottom embedded with shells and aquatic plants, and surrounded by four Tritons sitting on the edge, each throwing up a jet of water like a burnished silver wire, to the height of six or eight feet, and meeting another jet from the center, the whole falling into a little basin, which forms the cap of a highly ornamental column of three or four feet high, from which it trickled over the edge, falling down on three female figures of great beauty, which surrounded the sides of the column, and thence returned into the fountain. A few tasteful gardens scattered about the country, each exhibiting such a fountain, would do much towards awakening a better taste in rural matters. Where there is a small stream of water near a garden, especially if any part of the stream is above the garden level, the cost of such a fountain will be but trifling, and even where the water must be supplied by artificial power, there are abundant ways and means to facilitate the procuring a cheap supply."

THE AMERICAN ALOE.

MESSEURS. EDITORS—Please add to past favors, by an insertion of the subjoined; it is from my book of extracts and occasional remark: "The Horticultural Garland, or a Boquet of useful and amusing trifles," principally relative to the garden: and oblige yours, &c.

MAGNOLIA.

THE GREAT AMERICAN ALOE—*Agave Americana*.

The flowering of this valuable plant, used to be considered as a very rare occurrence, and as not taking place till it attained the age of one hundred years: but the specimens being now numerous, the delay in flowering is found not to be fact.

The height of the leaves of the *Agave* are from 4 to 6 feet, with its branches extending about the same circumference; the leaves are a foot wide and from 8 to 10 inches thick; the edges are prickly, and the points are armed with very strong spires, and bend towards the ground.

This plant bears some resemblance to the pine apple in its leaves, only they are thicker, stiffer, and less numerous: The outside leaves stand around in a star, or crown; and the middle consists of a thick spire of leaves, so firmly twisted together, that the edge of the one impresses, the other with a seal.

The flowering-stem rises from the centre of the tuft of leaves from 30 to 40 feet: branches that bear the individual clusters of flowers come off very gracefully in double curves, which have the bend downwards near the stalk, and upwards near the flowers. The appearance not unlike that of a majestic candlestick, with successive branches, for a great portion of its height, and tall as the stem is, the form of the leaves give it the appearance of great stability. The plant is a native of tropical America, but it abounds in the dry and warm places of

the south of Europe, along the sandy shores of the Mediterranean, and especially in the south of Portugal, and in the dry districts on the confines of Spain.

Like most plants which grow in very hot and dry places, the rind, or epidermis, of the leaves resists powerfully the action of heat, so that the interior of the leaves is very juicy. The juice contains a good deal both of alkali and oil, (the ingredients of which soap is composed,) so that in some places of the peninsula, it is used as a substitute for soap; the pulp forming a lather with water. Cattle are also fed on the sliced or bruised leaves, at those seasons when the pastures are burnt up by the drouth. So that it is a useful plant, even in those parts of Europe, where the vegetation of more temperate climes is apt to fail.

In Mexico, it is far more useful; and is, indeed one of the most valuable products of the soil, answering some of the purposes which are answered by rye in the north of Europe, barley in the middle latitudes, and the vine towards the south. The wines and spirits of the country are prepared from it. Its leaves make excellent cordage and its roots supply a brown sugar called dulce.

There is one of these plants in the green-house of Gen. STEPHEN VAN RENSSLAER, of this city, which is expected to flower in the course of this month. We hope to be able to give a correct drawing of it, as it appears when in full bloom, in the next No. of the Cultivator.—Eds.

Silk Culture in the United States.

THE SILK CULTURE.

MESSEURS. GAYLORD & TUCKER—The vast importance of the silk growing business in this country, cannot fail to awaken deep interest in the mind of every one who possesses a spark of patriotism, and is acquainted with the subject; and that subject having for several years occupied a considerable portion of my attention, I feel impelled by a sense of duty, and no less by natural inclination, to offer a few remarks on it, through your widely circulating paper, which privilege you will possibly grant, on the score that this is the first time I have troubled you.

There is, perhaps, no other branch of rural industry which has proved so infallible a source of national wealth as silk growing; and there was never before a time and place where it was introduced under such a concurrence of favorable circumstances, as meet to invite its introduction into this country at the present time.

The immediate success, however, of this vast, but not difficult undertaking, depends almost entirely on the plan adopted, or rather on the course pursued at the commencement. A large fleet starting together for a foreign port, if they pursue with unity of purpose and of action, the most judicious course, will probably arrive together, in due season, at the point of destination. But if each takes the course which uninstructed fancy may dictate, some of them may attain that point some time or other, and some, probably never. Thus, in the silk business, though it must ultimately succeed, at some period or other, its benefits to the nation at the present crisis of pecuniary, or rather impecuniary embarrassment, depend entirely upon the correctness of its first operations.

That the United States will arrive at the summit of perfection in manufacturing silk, I have no doubt, but like all other great operations of a similar nature, it will be by slow degrees at first, but progressing with constant acceleration, will in some few years enable us to bid defiance and a final adieu to the silk looms of Europe and Asia.

But however desirable this result, and whatever national benefits may be derived from the manufacture of silk, the present policy urged by the strongest dictates of common sense, is to apply our united efforts to the growing and preparing raw silk for exportation.

This embraces two distinct branches, growing the cocoons and reeling. The first naturally belongs to agriculture; and requires no more skill than growing a crop of turneps or potatoes. It requires no capital, and may be commenced and successfully pursued by the poorest family, and is by far the most profitable branch connected with the silk business. But reeling not only requires skill and judgment, and a greater degree of expertness and dexterity of the eye and fingers, than almost any other manual operation, but it also requires specific instructions to prepare the silk in such manner as to command a sale in the European markets.

In this state of things, if we wish to take the path that leads, if not to immediate national wealth, at least to speedy relief from national as well as individual embarrassments, it lies open and plain before us. Let every family, and every individual, who can feel any confidence in the business, (and they must be ignorant of it, or very stupid who cannot,) grow as many cocoons as they can, without derangement to other necessary concerns. As soon as it can be effected, let filatures be established in such number and in such situations, as to furnish convenient markets, where all the cocoons can find sale at their fair value. These filatures must be furnished with skillful reelers, who will instruct others as business increases; and the silk thus reeled, when prepared in such manner as to meet the approbation of the European manufacturers, will be purchased by them with avidity, and bring a return of wealth, not in bank rags and lamp black, but in gold and silver. As new reelers become instructed, many will return to their homes and produce domestic reeled silk, perhaps equally marketable with that reeled

at the filatures. But the samples of reeled silk, now being exhibited from time to time, though they afford cheering evidence of what may be done and of a spirit to do it, yet from their heterogeneous nature and from other causes, they would be of little or no use to the manufacturer, and of course would bring nothing. Let us see for a moment, what would be the result of our plan.

There are 17 millions of inhabitants in the U. States. Suppose one person in every thousand should engage in growing cocoons, and should appropriate one-fourth of an acre each, to the multicaulis, to feed the worms. This with skilful management, would produce 100 bushels of cocoons, which would yield more than 100 pounds of silk. But suppose we deduct one-half, and say fifty bushels. This, at \$4 per bushel, would yield the grower \$200 for one quarter of an acre of ground, and less than two months labor; except in preparing accommodations for the worms, which of course will be kept for future use. The cocoons will yield 50 pounds of silk, which if well reeled, would command from \$6 to \$7 per pound. But say only \$5; \$250, the price of 50 pounds of silk, multiplied by 17,000, would amount to \$4,250,000, and this for the first year.

It has been proved by numerous instances, that the bounty granted in this and several other states, is equal to the necessary expense of growing the cocoons, leaving the proceeds of sales a net gain. It would be strange if such encouragement did not induce each adventurer to double the quantity of land employed, and consequently of silk produced, annually, for at least four years, as this would only require two acres for the last year. The aggregate of silk the last year, at the same ratio, would be 6,800,000 pounds, and the return in cash, \$34,000,000. This vast sum can be annually realized from the employment of one person in a thousand in an easy and pleasant business, not over three months in each year, with the assistance, the third and fourth years, of a few children to each person, who would otherwise earn nothing.

This is no exaggerated calculation, merely to make a delusive show on paper. There are persons now doing the business on a more extensive and equally profitable scale, and there are many more than the proportion I have named, who are anxious to engage in it. There is no other article we can produce, which would command so fair and so steady a price in the European markets, as silk; and those markets could not be glutted till it had raised our nation to independent wealth.

When we are supplied with good raw silk, the manufacturing interest will commence its growth spontaneously; and though, as I have stated, by small and simple beginnings, the natural acceleration of its progress will enable it in due season to reach its destined perfection. The course I have described will inevitably produce the results I have named, and probably in a much greater ratio. But if its early operations are left to the guidance of the promiscuous dictates of unassociated and unconstructed individual fancy, we may, perhaps in a few centuries, arrive at equal perfection in the silk manufacture, with the Chinese, which by the proper course, would be surpassed in a few years.

The laudable ambition displayed in samples of sewing silk, though it shows conclusive evidence of the power of ultimate success, if properly directed, is, for want of such direction, rendered perfectly useless in a public point of view; for the best sewings can never be made without machinery and the skill acquired by experience. With their aid it is now produced in perfection, from the very poorest quality of silk, and with a facility with which domestic labor cannot compete. The best silk is worth more in its raw state from the reel, than if twisted into even good sewings. Besides, even a national monopoly of the entire business of sewing silk, would be, as an object of national importance, but as a grain of wheat to a bushel, compared with the production of raw silk for exportation.

The manufacturers want no twist given at reeling, nor would they accept it so twisted, at any price. The twist to suit each occasion, is given by the silk throwster, who has machinery for that purpose. The various machines which have been sold throughout the country, however they may have answered the purpose of their ingenious constructors, can be of no earthly use in reeling silk for market; for every one acquainted with the subject, well knows that reeling and twisting silk cannot be done to any advantage by one and the same operation. This may meet the disapprobation of vendors of those machines, but I feel it an imperious duty to undeceive the public, and I pledge myself to prove what I have stated, by the experience of all Italy and France, if so much proof is necessary.

S. BLYDENBURGH.

SILK CULTURE—REELS, REELING, &c.

THE most difficult part of the whole business of silk making, is that of reeling the cocoons; without which, all the previous operations will have been fruitless. It is at this point, that thousands of persons who have begun the culture of silk, under high hopes and expectations, have been arrested in their progress by what they called insurmountable difficulties, and abandoned the whole business in despair; there being no market accessible to them for the sale of the cocoons. In vain have they been exhorted to persevere in the trial with patience and industry for a few days—in vain have they been told, that the devotion of one week's time, and half a dozen pounds of cocoons, would be sufficient to teach them the art. The process seems so tedious, the result so trifling, that, after a few hours trial, they give it up, and

thus ends their career in the silk culture. Thousands of instances of this character have occurred; not more than one person out of every hundred that have made the trial, has persevered to the end, and really learned to reel silk. It is to this cause that a large portion of the obstruction to the progress of the silk culture is to be attributed. Thousands of bushels of cocoons are stowed away in garrets and out-houses, and eaten by roaches and mice, in the United States, because the producers had not perseverance enough to learn to reel. Had each producer of cocoons learned to reel, and reeled the cocoons he produced, he would not have abandoned the business, but would the next season have commenced on a larger scale, and with greatly increased prospects. For the encouragement of those who wish to learn to reel, I can and do assure them, that, when any intelligent person has persevered for one week, he has invariably become an expert reeler in that time. Many have become so in less. Any person, therefore, that will devote one week and five or six pounds of cocoons, steadily and perseveringly to the object, will be certain of accomplishing it. It requires almost Job-like patience, but patience was never better paid for. Let this be an invariable rule with all who would learn to reel: Take 5 or 6 pounds of cocoons, set apart one week of time, with a determination to waste all the cocoons, if necessary, and to allow of no interruption, during the time, and then go ahead. If, in two or three hours you find yourself making a good thread, all the better; but don't be discouraged if you presently find that thread becoming worthless from some cause or other, but take it off the reel and begin anew. Who ever heard of a young woman learning to spin cotton, wool, or flax, even in one week's trial, or in a month's? Why, then expect to perform a much nicer operation by intuition? Persevere, then, and you will learn. Let me, for further encouragement, inform young beginners, that I have taught many persons to reel by writing one letter to them, describing the process, which letter forms the basis of the following instructions:

THE SILK REEL.—The substance of the following remarks has been published by me in various forms, at least twenty times, in the course of the sixteen years I have devoted to the business, and I have as yet seen no cause to change a syllable of them. Indeed, my opinion has been sustained by the experience of every successive year, and by every observation. The Reel most proper for the purpose, is the one established by the Piedmontese government, and now well known here by the name of the "Piedmontese Reel." Reasons are as "thick as black-berries" for this opinion. Its construction is peculiar, by which it secures several important points in raw silk. By means of its vibrating bar, it lays the threads obliquely across in such manner as to prevent adhesion by means of the still wet gum. It draws two threads at a time, and they are wound around each other, between the plate and the guide wires, on passing up to the bars of the reel, in such a manner as to compress the otherwise loose fibres of each other into a solid cylindrical thread, without twisting, which is important, as the raw-silk can then be used as floss, or twisted more or less to suit the various purposes for which it may be wanted.* Our countrymen seem, however, disposed to reject them; or rather think that a compound machine, that will reel and double and twist at the same time, is better, and hence there are various contrivances for this purpose. But I feel it incumbent upon me to urge again upon silk culturists the reasons that have actuated me in rejecting everything of the kind. There is no principle better established than that of the economy of the division of labor. So well do manufacturers understand this, that they will not even allow one machine to spin a perfect thread—they first pass it through one machine that forms it into a sort of loose rope, and then through another to spin it into the thread. As to reeling silk, the object is to produce raw silk in the simplest possible form—that any sort of goods may be made out of it afterwards. But even supposing that simple sewing silk is ultimately intended to be made, it is more economical then, to reel it first, and double and twist with other machinery afterwards. For mere family purposes, the reeling and twisting machines may do very well; but for commercial purposes, the silk must be reeled in a manner similar to that produced by the Piedmontese reel; and that, or some reel producing the same results, must ultimately be adopted by us if we ever become a silk growing people. All staple articles of commerce must have some fixed and uniform character as a standard, all deviations from which deteriorate its quality. Why does the raw silk of China sell for a less price than that of Piedmont? Simply, because it is not reeled like the latter. Its fibre is every way equal to that of Piedmont; but its reeling is so slovenly, that much of it is wasted in working it up.

[The pamphlet from which Mr. S. wishes us here to make an extract, has not come to hand.]

WASTE SILK AND PERFORATED COCOONS, may be worked up as follows. Put the cocoons into a bag, put it into a boiler, with rain or river water sufficient to cover the bag, and put one quart of good soft soap to every four pounds of cocoons; boil from one to four hours, depending on the age of the cocoons. If they are fresh, one hour's boiling will be enough—if a year old, four or five hours will be required. Rinse them in clear water, hang them up to drain. When well drained, they may be spun like flax on the flax wheel, by holding the

cocoon in the hand, and spinning from the perforated end. The silk comes entirely off, leaving the shell of the cocoon bare, and makes a most beautiful article for stockings, mits, &c.

This concludes what I have to say on the subject, unless information be required on some particular point on which I have not been sufficiently explicit, in which case I shall, with much pleasure answer any interrogatories that may be directed to me either privately or publicly.

Baltimore, July, 1842.

GIDEON B. SMITH.

Domestic Economy.

ENGLISH AND AMERICAN CHEESE.

MESSES. GAYLORD & TUCKER.—I am about to write on the subject of a cheese dairy. I must inform you that I have no practical knowledge in cheese making, yet I acquired much information from the best makers in the vale of Gloster, England, from those who were celebrated for making the best double and single Gloster cheese. Some of the best dairies were owned by my relatives, and as I was always inquisitive on practical subjects, I hope my information may prove beneficial to our cheese makers.

Whenever I make use of the term milk-cheese, it will be understood cheese made from milk without the addition of cream, to contradistinguish it from Stilton or Cheddar, which have the cream of one milking added to the milk of the following. The cheese of these dairies sell for three times as much as the best milk cheese.

I was induced to write you on this subject, from having read in your February number, first page, some observations of your English Correspondent, T. C. Peters, Esq. He observes "that our cheese, sent to England, were too thin and flat, and that our flat cheese present too much outside for their weight." This objection may be true, yet I think your correspondent must have been misinformed, as I never heard any such objection made by any consumer, maker or seller, in England. It is a well known fact that no two counties in England make their cheese of the same thickness. The Cheshire, the most commonly used at public tables in England, are large and thick; the North Wiltshire are small and thick; the double Gloster are thin and flat, weighing four to the 100lbs.; the single Gloster are thinner than any cheese made in this country, yet the cheese of the best dairies of this make, sell twopence per pound higher than the Cheshire, and this accounts for its being so seldom used at public tables. Besides, cheese eaters in England seldom cut off any rind; they merely scrape the rind clean and eat it with the cheese, so that in a cheese of forty pounds, it could not make half an ounce difference whether thick or thin.

Those who often dine at farm houses in England, will be sure to hear the tale of a wealthy gentleman who made choice of a wife from three beautiful farmers daughters by their eating cheese. He had resolved to marry one of the three, but as they were all equally beautiful and accomplished, he was at a loss which to choose until he was invited to dine with the family. Cheese is always the last thing eaten at dinner in England; and he observed one of the daughters to cut off a thick rind which she left on her plate, this one he considered extravagant; the second one eat the cheese rind and all without scraping; this one he concluded must be dirty; the third one scraped the rind clean and then eat it, and to this one, as being clean and economical, he was married.

I have eaten as good made cheese in this country as any of the best English make; but it is not so commonly found in our market. During the last war I bought a sage cheese, made in Narragansett, equal for flavor and richness to any milk cheese I ever eat in England. About ten years since I had a double Gloster cheese sent me as a present, and I had just then tasted a cheese weighing forty pounds, made by a Mr. Rockwell, of Goshen, Connecticut, that I thought rather superior to my English. I therefore sold the English cheese for 18½ cents per lb., and bought one of Rockwell's for 12½ cents. As some of my English friends knew I had received a fine double Gloster, I made cuts from the Rockwell and sent them around as presents; they all speak of that beautiful cheese to this day, and regret they cannot obtain a supply of such. We have for the last year eaten of cheese made in this state, by a Mr. Root, fully equal to any milk cheese of the best English make. There is one error in the making of this cheese, that scarcely any two in succession have the same flavor, and had I tasted of the same cheeses in England, I should consider they were made at two distinct dairies. This proves that there is a want of system in the maker; for if the same conditions were observed in the making, they would be of uniform flavor.

The first object with a dairy farmer should be to lay in a profitable stock; such as will give a good quantity of milk, and rich in quality. The quality is strictly to be attended to, as some cows which give an unusual quantity will afford very little cream. I once owned two cows in England; one of them gave more than four gallons at a milking, when in full milk, and the other less than three; yet the milk of the last made more butter than that of the first. I read in one of your Cultivators, that your correspondent had made twenty pounds of butter in a week. This would be considered in any country a first rate dairy cow. I knew a farmer in England, who boasted he had a cow that would make twenty-one pounds of butter in a week; another farmer bet him a

* Has our correspondent ever used Jones' Silk Reel? It appears to us to possess all the advantages here attributed to the Piedmontese Reel.—Eds.

pipe of port wine that his cow would not do so on the following week, and the latter won the bet, as she made only twenty and a half pounds. I more than once partook of the port wine at the table of the winner.

The next object to be attended to in the dairy farm, is to provide a proper change of pasture; for if cows remain too long in one field, they will fall off both in quantity and in the richness of milk. Any one who will attend to cows when feeding, will observe that after roaming over a field for a few days, how choice they will become, and how they will wander about to obtain a bite of fresh grass; as the farmers say, they will blow over it. Let them again be observed when they are placed in a fresh field, how eagerly they feed, how soon they fill themselves and lie down to chew the cud. A dairy farm should be so divided as to afford a fresh field of grass at least once a week, giving time for fresh grass to grow in the first fed field by the time the cows have to return to it. Some few farmers mow the grass and feed them in yards, as they consider it more economical.

The next thing for the owner to attend to is the milking of the cows. Every drop of milk should be drained from the udder at each milking, for two reasons, that the last pint taken from the cow will make more butter than the first quart, and that the cows will afterwards fail to give just as much milk as is left in the udder.

We now come to the making of the cheese. The rennet used for curdling the milk should be of uniform strength, and the same quantity uniformly used for the same quantity of milk, enough to turn the milk to a firm curd and no more; for if too much be used the flavor of the cheese will be injured. The breaking of the curd is considered an important item in cheese making. Many old dairy farmers make their dairy maids use tin slices for breaking the curd, having discovered that breaking with the hand forces out too much of the cream. To keep all the cream in the curd is a grand desideratum in making rich cheese. When the curd is placed in the vat, and covered with the cloth, the pressure given should be light at first, and screwed down as the curd hardens. If too much pressure be given at first, the cream will be forced out of the curd, and the maker have a poor cheese. The cheese whey in England is set in pans to raise a cream for making whey butter, and those who make much good whey butter will make poor cheese, proving that the cream which should be in the cheese has been forced by mismanagement into the whey. After the cream has been taken from the whey, the remainder is given to the hogs. I have said nothing relative to the temperature of the milk when the rennet is added to it, as I never knew a farmer who used a thermometer. Cheese are always made in the warm season of the year, and the only rule I ever noticed to be observed, was to strain the milk when brought in, and add the rennet immediately.

When the cheese are made, they are placed on shelves in a cheese room. The cheese are turned every day and wiped with a dry linen cloth. The room should be so secured, that no vermin can make their way into it. They have a wired window at the north end of the room to keep it cool.

WM. PARTRIDGE.

New-York, July 16th, 1842.

RECIPES.

WASHINGTON CAKE.—This cake derives its name from the fact that it was a great favorite at the table of General Washington; the last two years of his life, it always formed one of the delicacies of his breakfast table, and is considered one of the standing dishes at a Virginian dejeuner.

RECIPE FOR MAKING.—Take two lbs of flour, one quart of milk, with an ounce of butter heated together, put the milk and butter into the flour when it is about luke warm, add a penny's worth of yeast, 3 eggs and a tea spoonful of salt, place it in pans over night, and bake it in the morning, in a quick oven for three quarters of an hour.

RECIPE FOR AMERICAN PLUM PUDDING.—Take one quart and a pint of whortle berries, wash them and let them drain through a sieve; to this put a pint and a half of molasses, dissolve a tea spoon full of pearl ash in warm water and stir it in the molasses until it foams, then stir in flour enough till it becomes the consistence of pound cake before it is baked, add spice to your taste. Tie the batter in a bag, and let it boil 3 hours—serve it up with sauce to your liking.

ANOTHER.—Take two-thirds teacup of butter, four cups of flour, five eggs, half table spoon of saleratus, half cup of sugar, and 3 cups of sour milk. Rub the butter and flour together; add the fruit after the other ingredients are well mixed. Bake one and a half hours. Serve with sweet sauce. The quantity of fruit from half pint to a pint.

TO PRESERVE CURRANTS.—Gather currants when green, separate them from the stems, and put them in bottles, which cork closely, and place in a cool part of the cellar. Currants may be kept fresh and green in this manner 10 months or more, and will make excellent pies in the winter and spring.

CURE FOR THE STING OF WASPS, &c.—Take a leaf or two of the broad leaved plantain, (plantago major,) and bruise it, by rubbing it on the part stung, and in ten minutes rubbing all pain will cease.

TO RESTORE RANCID BUTTER TO ITS ORIGINAL SWEETNESS.—Churn the butter with fresh sweet milk, in the proportion of 3 lbs. butter to half a gallon milk; it is said that this simple process will restore rancid butter to nearly its former sweetness.

Veterinary Department.

FOOT ROT IN SHEEP.

MESSRS. GAYLORD & TUCKER.—In the February No. of the Cultivator, your correspondent, Mr. S. W. Jewett of Middlebury, Vt., informs us of the effect of blue vitriol in preserving timber, tested by keeping vitriol water in a trough for sheep to pass through, that were affected with the foot rot. Will he inform us whether it effected the cure, and if so, the length of time necessary to do it, and how frequently it was necessary for them to pass through the vitriol water, and in fact, all that is necessary to be done to make it effectual. And if any of our brother farmers have found out a way to cure it, so that they will stay cured, they will confer a favor on me, and probably on some others among the numerous readers of the Cultivator. It is a disease I have been dreadfully annoyed with, for a few years past.

Delphi, Feb. 5, 1842.

RICHARD TAYLOR.

"A DAIRYMAN FARMER," at Trenton, Oneida county, gives us a detailed account of several severe cases of foot rot in sheep, successfully treated by him last season. The disease had progressed so far before he was aware of its existence, that the feet were filled with insects, and the animals entirely helpless. With a pointed knife he picked out as many of the larvae as he could, and then by pouring in spirits of turpentine, soon cleared out the remainder. The holes in the feet and between the hoofs were then filled with pledgets of tow and tar, and around the whole foot was wrapped a strong tow cloth secured above the fetter lock joint. From attention to the manner in which the disease occurs, it appeared that the openings always existing between the claws for the discharge of matter, had by some means become obstructed in the first place; suppuration, and the discharge of an offensive matter that attracts the flies, follows, and the larvae by their presence increase the evil rapidly, and soon destroy the animal, if not removed.

CURE FOR THE SCRATCHES.

TAKE about two quarts of blood from the neck vein of the horse, wash the feet affected with strong soap suds till perfectly clean; let them dry; then, having dissolved one-fourth of an ounce of corrosive sublimate in about one pint of strong spirituous liquor, pour about one table spoonful on each affected part. Two or three applications, after once bleeding, will effect a cure. I have often tried it and have never failed.

Snow Creek, N. C., Dec. 1841.

W. F. C.

CURE FOR JOINT OR SINEW WATER.

BURN a cork to a coal—pulverize it well, and put the dust into the wound. I have made use of this remedy frequently, and have never known it fail. Try it when needed.

JABEZ S. SMITH.

CURIOUS EFFECT OF NITRATE OF SODA.

In a late number of Lindley's Chronicle we find a communication from a "Farmer," in which he states that about four weeks before the time of writing, he applied upon two acres of grass land, 1 cwt. of nitrate of soda to each acre, and upon one acre 20 bushels of bone dust; that he has since kept cattle in the enclosure, and has lately found that the milk from cows fed in it will not keep through the day, the cream curdling as though acid had been added to it. He inquires whether this effect can be caused by the acid in the nitrate of soda becoming decomposed after being eaten by the cattle; and if it could arise from this cause, whether in adding sulphuric acid to manure to fix ammonia, it would not be necessary to keep it out of the reach of cows. Heavy rains followed the application of the nitrate.

Professor Lindley doubts whether the nitrate had any thing to do with the milk curdling. We think if the vessels in which the milk was set, had been daily thoroughly scalded and cleansed, no such curdling would have occurred. In former times, women, not over neat, suffered from having their milk curdle, but they were in the habit of charging it upon witchcraft; a cause about as probable as the one supposed by "Farmer."

SALT AND PLASTER IN MICHIGAN.—The inhabitants of Grand River Valley, and indeed that state generally, have reasons for self-gratulation in the discovery of abundant supplies of both salt and gypsum in that part of the state. The salt is made from water of good quality, obtained after several months' boring, at the Grand Rapids, by direction of the Hon. L. Lyon, and the salt is of fine grain and purity of crystal. We have seen some specimens of the Michigan plaster, and judging from these samples, there can be no doubt of its value, or the great influence it is destined to exert on the agriculture of a part of our country, the soil of which in the main, is of that kind most benefited by its use. Coal, iron, salt and plaster are now numbered among the products of Michigan.

SITUATION WANTED.

A SITUATION WANTED, by a young man lately from Scotland, who has been regularly bred to agriculture in all its branches, and understands the rearing and feeding of live stock, as is practiced in one of the best cultivated counties in Scotland, and can produce unquestionable certificates as to his abilities and moral character. He would be willing to make himself generally useful upon a farm. Address J. R. office of the Cultivator, post paid.

July 28, 1842.

NOTICES TO CORRESPONDENTS, &c.

COMMUNICATIONS have been received during the month of July, from A. Dairyman Farmer, G. E. Croft, N. Reed, S. Elydenburgh, H. W. S. C. Quercus, P. An Onon. Farmer, J. Laidley, R. Sinclair, Alex. Ross, John Beach, G. P., Joseph Henry, J. H., H. A. Pitts, A. Reader, L. A. Morrell, T. C. Peters, M. L. Colton, S. Holden, J. J. Thomas, Agriculturist, E. Cornell, A. Young Farmer, Wm. Partridge, Magnolia, W. H. Sotham, S. W. Jewett, T. W. Bray, Norman's Kill, L. D. Clift, A. Farmer, Commentator, G. B. Smith, T. Fountain, H. A. P., Franklin Co., C. Merriweather, R. S. Hardwick, A. Staten Islander, D. Y. Mitchell, R. North, Jr., S. Hitchcock.

Received from Wiley & Putnam, booksellers, New-York, Paris I and II, of Brande's "Dictionary of Science, Literature and Art," from the author, Philadelphia, "The Farmer's Land Measurer," by JAMES PEDDER, editor of the Farmer's Cabinet—also "The Yellow Shoe strings," by the same gentleman. [These works were received ten weeks after the date of the note accompanying them.]—From Prof. HENRY, Princeton College, two Reports on the "Diseases of Wheat," and on the "Specific Identity of the Fungi producing Rust and Mildew," by the Rev. J. S. Henslow, Professor of Botany in the University of Cambridge, England.—From R. D. OWEN, Esq. New Harmony, Ind. portrait of Berkshire sow Delilah.—From A. J. WYKOOZ, Esq. the Constitution and By-Laws of the Chemung Co. Ag. Society. From THE SPECTATOR, Washington City, "Memorial of Joshua Leavitt," on the subject of the revision of the Tariff, a pamphlet of 160 pages.—From the Editors, the numbers of "The New Farmer's Journal," for June.

WE give this month, "A. B. A.'s" reply to Dr. Martin, which must close the controversy in our columns. We shall next month publish "An Onondaga Farmer's reply to Mr. Bickett, which must also close that controversy."

CONTENTS OF THIS NUMBER.

State Fair at Albany—Sales of Stock—British Ag. Jour-	121
nals—Century Plant—Notices.	
Letter to Lord Ashburton—The Book of the Farm—The	122
Farmer's Land Measurer—Silliman's Journal—Ameri-	
can Ecclectic—Mr. Garrett's Addresses.	
Report of the Am. Institute—Brande's Dictionary of Sci-	123
ence—N. A. Review—Use of Lime—New Weed—Cul-	
ture of Saffron—Canada Thistles—Sorel—Manures—	
Bermuda Grass.	124
Composts—Rearing Calves—The Turnep Fly—The Poul-	125
try Yard.	
Peat as a Manure—An Agricultural School.	126
Sale of Stock at State Fair—Feeding Cattle—Necessity of	127
Economy—Worms.	
Dictionary of Agricultural Terms.	128
Curing and Preparing provisions for the English Market—	129
Straight Rows.	
Sheep Husbandry—Comments on the June No.—Mr. Jew-	129
ett's Pauline Merino Buck.	
The Yankee Corn Planter—Use of Muck—Woburns vs.	130
Berkshires.	
Forest Trees—Threshing Machines—Inquiry—Farm Gates	131
—Letter from W. H. Sotham.	
Weeds of Agriculture, No. 2—Queen Bees—Lice in Poul-	132
try Houses—St. Moor Farm—Preparing food for Swine	
—Culture of Potatoes.	133
Galvanic Plant Protector—Black Rust on Plum Trees—A	133
Garden Hand Plow—Fruit Garden—The Peach Tree—	
Cherries—Pears.	134
Rose Hugs on the Grape—Rhubarb—Cast Iron Fountain—	134
American Aloe—Silk Culture.	
Silk Reels, Reeling, &c.—English and American Cheese.	135
Recipes—Veterinary Matters—Notices, &c.	136

ILLUSTRATIONS.

Fig. 71—Poultry Yard.	124
Fig. 72—Corn Ground Marker.	128
Fig. 73—Mr. Jewett's Pauline Merino Buck.	129
Fig. 74—Yankee Corn Planter.	130
Fig. 75—A Farm Gate.	131
Fig. 76—Galvanic Plant Protector.	133
Fig. 77—A Garden Hand Plow.	133
Fig. 78—A Cast Iron Fountain.	134

SILK REELS.

THE subscriber has constructed a Silk Reel, which he believes (perhaps because it is his own invention,) possesses advantages over any other reel in use. Its basis are the same principles as those of the Piedmontese reel, no doubt the best reel ever heretofore in use, (the patent inventions for reeling and twisting, to the contrary notwithstanding.) But it is not only rendered more convenient in its size and form, but several specific improvements in its essential operations, which improvements have had the sanction of a skillful Italian reeler, who has recently arrived, bringing his reels with him. Persons disposed to purchase reels, are invited to call and give the above reel a fair inspection. No. 9 Chambers st. New-York.

July, 1842.

S. ELYDENBURGH

BERKSHIRE HOGS AND PIGS.

THE subscribers would give notice to persons wishing to procure pigs, or breeding sows, of the pure improved Berkshire stock, that they now own, the celebrated sow, Fanny Kemble, recently purchased of Francis Roth, Esq. together with four of her pigs, that are breeding sows; also a boar and sow from the best of Mr. Lossing's stock at Albany, as also a number of other full grown sows of unquestionable purity. Being thus stocked with breeders, we think we hazard nothing in saying that we can furnish as good pigs as can be found in this country. We have on hand now, from 75 to 100 of the above stock, at our Piggery, in Butternuts, near Louisville, Otsego co. state of New-York, which we will deliver regularly boxed at Utica, for prices suited to the times.

R. R. & L. G. COLLINS.

BUFFALO NURSERY AND HORTICULTURAL GARDEN.

THE stock now on hand for sale, is much larger than at any former period, embracing the most choice and select kinds of the Apple, Pear, Plum, Cherry, Peach, Nectarine, Apricot, Quince, Grapes, Gooseberries, Raspberries, Strawberries, Currants, &c.

A fine collection of Ornamental Trees, Flowering Shrubs and Plants, embracing almost every desirable article in this department.

Also for sale, 25,000 engrafted Apple trees of one years growth from the graft and bud, from one to two feet high, comprising 120 of the most choice kinds of the apple, four-fifths of which have been cut from bearing trees, will be sold for cash, at the low price of \$8.00 per 100. No less than from 5 to 10 of any one kind to be taken.

Also, 5000 seedlings of the true English Mazzard Cherry, at \$6.00 per 100. Trees and plants packed in superior order, and shipped at Buffalo, on board of any Steamboat, Vessel, or Canal boat, required. Catalogues gratis to every applicant.

Buffalo, N. Y., July, 1842.

B. HODGE.

FROM THE STEAM PRESS OF C. VAN BENTHUYSEN & CO.